

# **Arizona**

## **Arizona's Instrument To Measure Standards**

# **2008**

## **Technical Report**

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## Foreword

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The technical information herein is intended for use by those who evaluate tests, interpret scores, or use test results in making educational decisions. It is assumed that the reader has technical knowledge of test construction and measurement procedures, as stated in *Standards for Educational and Psychological Testing* (American Educational Research Association, American Psychological Association, National Council on Measurement in Education, 1999).

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## Part 1: Executive Summary

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This document provides information regarding processes and procedures implemented in the 2007 Fall and 2008 Spring Arizona Instrument to Measure Standards (AIMS) assessments for the development of tests, analysis of data, calibration, scoring, and scaling. This document also describes the results of the 2007 Fall and 2008 Spring AIMS assessments. The technical information in this report is intended for those who evaluate tests, interpret scores, or use test results in making educational decisions.

This document also provides information relevant to the *Standards for Educational and Psychological Testing* (American Education Research Association, American Psychological Association, National Council on Measurement in Education, 1999). Each part of this technical report addresses different standards. The standards addressed by each part are listed at the beginning of each part. Part 1 of the technical report addresses standards 2.7, 3.2, 3.3, 6.3, 6.4, 6.15, and 13.6.

The 2007 Fall AIMS assessments were administered in Reading, Writing, and Mathematics to students in high school who were in grades 11 and 12 and had not yet obtained a passing score in all three of the content areas. The 2008 Spring AIMS assessments were administered in Reading, Writing and Mathematics to students in Grades 3-8 and high school. This was the fourth year that Grades 3-8 and high school were administered Reading, Writing, and Mathematics AIMS. Students in grades 3, 5, and 8 have been taking AIMS assessments since the 1999-2000 school year, and students in high school began taking AIMS (Form A) in Reading, Writing, and Mathematics in 1999. The AIMS assessments are designed to measure Arizona students' performance on the Arizona content standards. All AIMS Reading and Mathematics tests are written to Arizona content standards adopted in March 2003. The AIMS Writing tests are written to content standards adopted in June 2004.

The AIMS high school Reading, Writing, and Mathematics tests are criterion-reference competency tests. Students' test scores on the AIMS high school tests are one component of the high school graduation requirements and that passing scores are required to earn a diploma for students who graduated beginning in Spring 2006. Students in grade 10 have five opportunities to pass the test prior to graduation. The AIMS high school tests in Reading and Mathematics consist of multiple-choice items. The AIMS high school test in Writing consists of a single prompt essay which is scored using a six-trait analytic rubric (see Appendix F).

The AIMS Reading/Language and Mathematics tests for Grades 3-8 are dual purpose assessments (DPA)—both criterion and norm-referenced scores are given based on performance on the tests. The AIMS Writing tests are single prompt essay tests scored using a six-trait analytic rubric. Criterion-referenced scores are reported in Reading, Writing, and Mathematics. Norm-reference scores are reported in Reading, Language, and Mathematics. Each Reading and Mathematics test consists of items written by Arizona teachers and items from CTB/McGraw-Hill's norm-referenced test, *TerraNova, The Second Edition*® (*TerraNova*; CTB/McGraw-Hill, 2001). Some of the *TerraNova* items contribute to both criterion-referenced and norm-referenced scores. These items all match the Arizona content standards. This design eliminated the need for students to take two separate tests and was first implemented for the 2004-2005 testing period. All Reading, Language, and Mathematics tests consist of multiple-choice items only.

In addition to the scores for Reading, Writing, and Mathematics, a composite score for language arts is also reported. The language arts composite is the mathematical average of the Reading and

Writing scale scores. Given the language arts composite is based on separately scaled assessments, reliability information is provided separately for Reading and Writing.

The operational AIMS Science assessments were first administered in Spring 2008 to Grades 4, 8, and high school. For each grade, two Forms A and B were constructed using the information from 2007 Spring Field test. These two forms were spiraled within classrooms. Using the common item equivalent design, the two test forms were put on the same scale.

The AIMS assessments are designed to measure Arizona students' performance on the Arizona content standards. All AIMS Science tests are written to Arizona content standards approved by the State Board on May 24, 2004 and updated on March 10, 2005.

The AIMS Science tests are criterion-reference competency tests, which consists of multiple-choice items. Science test consists of items written entirely by Arizona teachers.

Based on the input of Arizona educators and the Arizona's Instrument to Measurement Standards, a design was derived, developed, administered, and scored. The present Technical Report documents all aspects of the testing cycle in the subsequent chapters. The structure of the present Technical Report mirrors the testing cycle. A brief content summary of the report is provided below.

### **Involvement of Arizona Educators**

- Part 2 of this report describes the involvement of Arizona educators in test development.
- Several committees met throughout the year in preparation for the 2008 AIMS.

### **Test Design and Development**

- Part 3 of this report describes the test design and the item development process. It provides the content frameworks and the blueprints upon which all of the AIMS tests are based. This section also includes descriptions and the structure of each AIMS test administered in 2008.
- Part 4 of this report provides a chronological description of the passage, stimulus, and item development process including creation of specifications, committee passage/stimulus reviews, item content and sensitivity reviews, data analysis and item selection procedures, and customer and contractor reviews to guarantee a quality, error-free product.

### **Administration**

- Part 5 briefly describes test administration, accommodations, security, and the written procedures available to all test administrations and school personnel.
- The same accommodations were made for both Fall 2007 and Spring 2008 AIMS.
- The accommodations were available to some students while testing on AIMS.
- Personnel involved in testing administration were asked to sign a security agreement form.
- In order to ensure standardized testing administration for all students, a Test Coordinator's manual was made available to all test coordinators. Also, Test Administration Directions were made available to all test administrators.

### **Data for Operational Analysis**

- Part 6 describes the data used for calibration and scaling of the 2008 Spring AIMS, and also presents classical test statistics and item analysis statistics.
- In order to ensure valid calibration and scaling, several data clearing steps occurred.
- The values for Cronbach's alpha were provided as a measure of internal consistency.

### **Calibration, Scaling, and Equating**

- Part 7 reviews calibration, equating, scoring methods, and calibration results. Evaluation of the calibration results include model-to-item fit.
- Two alternate forms for a new test, Science, were equated using the random groups common item design (See Appendix B).
- Displacement values and other item characteristics were considered for evaluating anchor items.
- Part 7 also shows the relationships between raw scores and scale score through scoring tables.
- Scaling results including the standard error of measurement are also presented.
- For Writing, a pre-equating design has been applied. That is, scoring tables established based on previous field testing were applied. For the other contents, scoring tables were established using students' responses to the 2008 Spring administration.

### **Test Results**

- Part 8 summarizes information about the results of the 2008 Spring administration of AIMS DPA and AIMS high school. The test results for different ethnic background and special program membership were provided.
- Results for AIMS high school assessments are reported by graduating cohort, such as years from 2008 to 2010.
- Scale score frequency distributions with three cut scores are also presented.
- For Reading and Mathematics, there was a slight scale score increase for most grades. For Writing, there was a scale score decrease except for Grade 8.

### **Validity Evidence**

- Part 9 reviews the main validity issues discussed in all prior chapters and provides additional validity evidence supporting the AIMS tests.
- For Reading, Mathematics, and Science, Cronbach's alpha was estimated as internal consistency, and for Science and Writing inter-rater position consistency was provided.
- An analysis of differential item functioning is presented.
- Correlations among assessments are presented in the context of construct validity.

## **Classification**

- Part 10 provides information regarding classification consistency and accuracy when students were classified into proficiency categories.
- The cut scores used for classifying proficiency categories were estimated in standard setting.

## **Part 2: Involvement of Arizona Educators at all Levels**

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Part 2 of the technical report addresses the involvement of Arizona educators in test development. This part of the technical report addresses standard 3.5 of the *Standards for Educational and Psychological Testing* (AERA, APA, NCME, 1999).

Several committees met throughout the year in preparation for the 2008 AIMS Writing, Reading, Math, and Science assessments. These committees included teachers, curriculum specialists, and administrators from across the state and were an integral part of the AIMS test development processes and AIMS results interpretation.

The test development committee meetings included:

- Passage Review, conducted in March 2007, in which educators reviewed passages to ensure topics were appropriate and would not favor a particular gender or ethnic group for possible use in the Spring of 2008 as field test passages;
- Item Writing, conducted in April 2007, in which educators wrote items aligned to the content standards for possible use in the Spring of 2008 as field test items;
- Content and Bias/Sensitivity Review, conducted in June 2007, in which educators reviewed the items written in April 2007 to ensure content was appropriate to the standards being assessed and that the items would not favor a particular gender or ethnic group;
- Data Analysis, conducted July 2007, in which educators examined the item data generated during the Spring 2007 field test and assigned each item a status code to be included with the item information in the item bank and that would determine its eligibility for possible selection as an operational item starting in Spring 2008; and
- Item Selection, conducted in July 2007, in which educators chose items matching the test blueprints from the item bank and the pool of field tested items administered in the Spring of 2007 to be included on the 2008 assessments.

## **Part 3: Test Design**

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Part 3 of the technical report provides information regarding test design. The following AERA/APA/NCME standards are addressed: 1.2, 1.6, 3.1, 3.2, 3.3, 3.11, 6.4, 6.15, 13.3, and 13.5.

### **3.1 Content Standards**

The AIMS assessments are designed to measure performance on the Arizona content standards adopted in March 2003 for Reading and Mathematics, June 2004 for Writing and March 2005 for Science. These standards are organized by strand, concept, and performance objective. The AIMS Reading and Mathematics test blueprints are based on the concepts and strands of the Arizona content standards, presented in figures 3.1.1-3.1.2. The AIMS Writing tests are scored on the Six Trait Writing Rubric. Figure 3.1.3 presents the six traits. The AIMS Science test blueprints are based on the concepts and strands of the Arizona content standards, presented in figures 3.1.4 through 3.1.6.

#### **Figure 3.1.1 Arizona Reading Concepts and Strands**

---

##### **Strand 1: Reading Process**

- Concept 1: Print Concepts**
- Concept 3: Phonics**
- Concept 4: Vocabulary**
- Concept 6: Comprehension Strategies**

##### **Strand 2: Comprehending Literary Text**

- Concept 1: Elements of Literature**
- Concept 2: Historical and Cultural Aspects**

##### **Strand 3: Comprehending Informational Text**

- Concept 1: Expository Text**
  - Concept 2: Functional Text**
  - Concept 3: Persuasive Text**
- 

#### **Figure 3.1.2 Arizona Mathematics Concepts and Strands**

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##### **Strand 1: Number Sense and Operations**

- Concept 1: Number Sense**
- Concept 2: Numerical Operations**
- Concept 3: Estimation**

##### **Strand 2: Data Analysis, Probability and Discrete Math**

---



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**Concept 1: Data Analysis (Statistics)**

**Concept 2: Probability**

**Concept 3 and 4: Discrete Mathematics**

**Strand 3: Patterns, Algebra and Functions**

**Concept 1: Patterns**

**Concept 2: Functions and Relationships**

**Concept 3: Algebraic Representations**

**Concept 4: Analysis of Change**

**Strand 4: Geometry and Measurement**

**Concept 1: Geometric Properties**

**Concept 2: Transformation of Shapes**

**Concept 3: Coordinate Geometry**

**Concept 4: Measurement**

**Strand 5: Structure and Logic**

**Concept 1: Algorithms and Algorithmic Thinking**

**Concept 2: Logic and Reasoning**

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### **Figure 3.1.3 Arizona Writing Traits**

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**Trait 1: Ideas and Content**

**Trait 2: Organization**

**Trait 3: Voice**

**Trait 4: Word Choice**

**Trait 5: Sentence Fluency**

**Trait 6: Conventions**

---

### **Figure 3.1.4 Arizona Science Concepts and Strands – Grade 4**

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**Strand 1: Inquiry Process**

**Concept 1: Observations, Questions, and Hypotheses**

**Concept 2: Scientific Testing (Investigating and Modeling)**

**Concept 3: Analysis and Conclusions**

**Concept 4: Communication**

**Strand 2: History and Nature of Science**

**Concept 1: History of Science as a Human Endeavor**

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---

**Concept 2: Nature of Scientific Knowledge**

**Strand 3: Science in Personal and Social Perspectives**

**Concept 1: Changes in Environments**

**Concept 2: Science and Technology in Society**

**Strand 4: Life Science**

**Concept 1: Characteristics of Organisms**

**Concept 2: Life Cycles**

**Concept 3: Organisms and Environments**

**Concept 4: Diversity, Adaptation, and Behavior**

**Strand 5: Physical Science**

**Concept 1: Properties of Objects and Materials**

**Concept 2: Position and Motion of Objects**

**Concept 3: Energy and Magnetism**

**Strand 6: Earth and Space Science**

**Concept 1: Properties of Earth Materials**

**Concept 2: Earth's Processes and Systems**

**Concept 3: Changes in the Earth and Sky**

---

**Figure 3.1.5**  
**Arizona Science Concepts and Strands – Grade 8**

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**Strand 1: Inquiry Process**

**Concept 1: Observations, Questions, and Hypotheses**

**Concept 2: Scientific Testing (Investigating and Modeling)**

**Concept 3: Analysis and Conclusions**

**Concept 4: Communication**

**Strand 2: History and Nature of Science**

**Concept 1: History of Science as a Human Endeavor**

**Concept 2: Nature of Scientific Knowledge**

**Strand 3: Science in Personal and Social Perspectives**

**Concept 1: Changes in Environments**

**Concept 2: Science and Technology in Society**

**Strand 4: Life Science**

**Concept 1: Structure and Function in Living Systems**

**Concept 2: Reproduction and Heredity**

**Concept 3: Populations of Organisms in an Ecosystem**

**Concept 4: Diversity, Adaptation, and Behavior**

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**Strand 5: Physical Science**

**Concept 1: Properties and Changes of Properties in Matter**

**Concept 2: Motion and Forces**

**Concept 3: Transfer of Energy**

**Strand 6: Earth and Space Science**

**Concept 1: Structure of the Earth**

**Concept 2: Earth's Processes and Systems**

**Concept 3: Earth in the Solar System**

---

**Figure 3.1.6**  
**Arizona Science Concepts and Strands – High School**

---

**Strand 1: Inquiry Process**

**Concept 1: Observations, Questions, and Hypotheses**

**Concept 2: Scientific Testing (Investigating and Modeling)**

**Concept 3: Analysis, Conclusions, and Refinements**

**Concept 4: Communication**

**Strand 2: History and Nature of Science**

**Concept 1: History of Science as a Human Endeavor**

**Concept 2: Nature of Scientific Knowledge**

**Strand 3: Science in Personal and Social Perspectives**

**Concept 1: Changes in Environments**

**Concept 2: Science and Technology in Society**

**Concept 3: Human Population Characteristics**

**Strand 4: Life Science**

**Concept 1: The Cell**

**Concept 2: Molecular Basis of Heredity**

**Concept 3: Interdependence of Organisms**

**Concept 4: Biological Evolution**

**Concept 5: Matter, Energy, and Organization in Living Systems (Including Human Systems)**

**Strand 5: Physical Science**

**Concept 1: Structure and Properties of Matter**

**Concept 2: Motions and Forces**

**Concept 3: Conservation of Energy and Increase in Disorder**

**Concept 4: Chemical Reactions**

**Concept 5: Interactions of Energy and Matter**

---

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**Strand 6: Earth and Space Science**

**Concept 1: Geochemical Cycles**

**Concept 2: Energy in the Earth System (Both Internal and External)**

**Concept 3: Origin and Evolution of the Earth System**

**Concept 4: Origin and Evolution of the Universe**

---

### 3.2 Test Blueprints

A test blueprint designates the percentage of items that should measure each strand and concept. All AIMS assessments were designed in accordance with the following blueprints. Further discussion of item selection to match the blueprints is included in Part 4 of this report.

**Table 3.2.1**  
**AIMS blueprint for Reading**

AIMS Reading Blueprint (beginning Spring 2005)												
Grade	3	Strand 1						Strand 2		Strand 3		
		Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 1	Concept 2	Concept 1	Concept 2	Concept 3
	% of test	7%	0%	9%	11%	0%	17%	22%	0%	11%	11%	11%
	% of strand on test	44%						22%		33%		
Grade	4	Strand 1						Strand 2		Strand 3		
		Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 1	Concept 2	Concept 1	Concept 2	Concept 3
	% of test	0%	0%	0%	7%	0%	15%	31%	0%	24%	11%	11%
	% of strand on test	22%						31%		46%		
Grade	5	Strand 1						Strand 2		Strand 3		
		Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 1	Concept 2	Concept 1	Concept 2	Concept 3
	% of test	0%	0%	0%	11%	0%	11%	31%	0%	24%	11%	11%
	% of strand on test	22%						31%		46%		
Grade	6	Strand 1						Strand 2		Strand 3		
		Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 1	Concept 2	Concept 1	Concept 2	Concept 3
	% of test	0%	0%	0%	11%	0%	11%	31%	0%	24%	11%	11%
	% of strand on test	23%						31%		46%		
Grade	7	Strand 1						Strand 2		Strand 3		
		Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 1	Concept 2	Concept 1	Concept 2	Concept 3
	% of test	0%	0%	0%	11%	0%	11%	24%	7%	22%	13%	11%
	% of strand on test	22%						31%		46%		
Grade	8	Strand 1						Strand 2		Strand 3		
		Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 1	Concept 2	Concept 1	Concept 2	Concept 3
	% of test	0%	0%	0%	7%	0%	9%	28%	7%	24%	15%	11%
	% of strand on test	17%						33%		50%		
Grade	HS	Strand 1						Strand 2		Strand 3		
		Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 1	Concept 2	Concept 1	Concept 2	Concept 3
	% of test	0%	0%	0%	7%	0%	7%	28%	7%	22%	15%	15%
	% of strand on test	15%						33%		52%		

Source: [www.azed.gov/standards/aims/blueprints/Reading1-10-06.pdf](http://www.azed.gov/standards/aims/blueprints/Reading1-10-06.pdf)

**Table 3.2.2**  
**AIMS blueprint for Mathematics**

AIMS Mathematics Blueprint (beginning Spring 2005)																	
	Strand 1			Strand 2				Strand 3				Strand 4				Strand 5	
	C1	C2	C3	C1	C2	C3	C4	C1	C2	C3	C4	C1	C2	C3	C4	C1	C2
<b>Grade 3</b>																	
% of Test by Concept	15%	14%	6%	6%	6%	6%		11%		11%		8%		13%		6%	
% of Test by Strand	35%			17%				22%				21%				6%	
<b>Grade 4</b>																	
% of Test by Concept	13%	11%	6%	6%	6%	6%		12%		12%		10%		15%		6%	
% of Test by Strand	30%			17%				23%				24%				6%	
<b>Grade 5</b>																	
% of Test by Concept	10%	13%	6%	6%	6%	6%		12%		12%		10%		13%		6%	
% of Test by Strand	29%			18%				24%				24%				6%	
<b>Grade 6</b>																	
% of Test by Concept	6%	10%	6%	6%	6%	9%		12%		12%		12%		16%		6%	
% of Test by Strand	22%			21%				24%				28%				6%	
<b>Grade 7</b>																	
% of Test by Concept	7%	9%	6%	9%	6%	6%		12%		12%		13%		14%		6%	
% of Test by Strand	22%			21%				24%				28%				6%	
<b>Grade 8</b>																	
% of Test by Concept	6%	6%	6%	11%	6%	6%		6%	6%	15%		14%	6%	6%		6%	
% of Test by Strand	18%			23%				27%				26%				6%	
<b>H.S.</b>																	
% of Test by Concept	5%	5%	5%	9%	5%	5%		5%	7%	14%	5%	9%	5%	7%	6%	5%	5%
% of Test by Strand	14%			19%				31%				27%				9%	

Source: [www.azed.gov/standards/aims/blueprints/Mathematics1-10-06.pdf](http://www.azed.gov/standards/aims/blueprints/Mathematics1-10-06.pdf)

**Table 3.2.3**  
**AIMS blueprint for Science Grade 4**

**AIMS Science  
 Grade 4 Test Blueprint**

Strand	Concept	Number of POs	Number of testable POs	Number of Test Items	Percentage of Test
<b>Strand 1: Scientific Inquiry</b>	Concept 1: Observations, Questions, and Hypotheses	4	3	6	33.3%
	Concept 2: Scientific Testing (Investigating and Modeling)	5	3	6	
	Concept 3: Analysis and Conclusions	5	5	6	
	Concept 4: Communication	3	1		
<b>Strand 2: History and Nature of Science</b>	Concept 1: History of Science as a Human Endeavor	2	1	6	11.1%
	Concept 2: Nature of Scientific Knowledge	3	2		
<b>Strand 3: Science in Personal and Social Perspectives</b>	Concept 1: Changes in Environments	2	2	6	11.1%
	Concept 2: Science and Technology in Society	3	2		
<b>Strand 4: Life Science</b>	Concept 1: Characteristics Of Organisms	2	2	6	11.1%
	Concept 2: Life Cycles	0	0		
	Concept 3: Organisms and Environments	4	4		
	Concept 4 : Diversity, Adaptation, and Behavior	2	2		
<b>Strand 5: Physical Science</b>	Concept 1: Properties of Objects and Materials	0	0	6	11.1%
	Concept 2: Position and Motion of Objects	0	0		
	Concept 3: Energy and Magnetism	5	5		
<b>Strand 6: Earth and Space Science</b>	Concept 1: Properties of Earth Materials	0	0	0	22.2%
	Concept 2: Earth's Processes and Systems	6	6	6	
	Concept 3: Changes in the Earth and Sky	6	6	6	
12/6/2005	Total Concepts = 18 Testable Concepts = 14	52	44	54	100%

Source : [http://www.azed.gov/standards/aims/blueprints/AIMS\\_Science\\_TestBlueprints\\_Grade%204.pdf](http://www.azed.gov/standards/aims/blueprints/AIMS_Science_TestBlueprints_Grade%204.pdf)

**Table 3.2.4**  
**AIMS blueprint for Science Grade 8**

**AIMS Science**  
**Grade 8 Test Blueprint**

Strand	Concept	Number of POs	Number of testable POs	Number of Test Items	Percentage of Test
Strand 1: Scientific Inquiry	Concept 1: Observations, Questions, and Hypotheses	3	3	6	34.5%
	Concept 2: Scientific Testing (Investigating and Modeling)	5	2	4	
	Concept 3: Analysis and Conclusions	8	7	6	
	Concept 4: Communication	5	2	4	
Strand 2: History and Nature of Science	Concept 1: History of Science as a Human Endeavor	4	3	6	10.3%
	Concept 2: Nature of Scientific Knowledge	4	3		
Strand 3: Science in Personal and Social Perspectives	Concept 1: Changes in Environments	2	2	6	10.3%
	Concept 2: Science and Technology in Society	4	2		
Strand 4: Life Science	Concept 1: Structure and Function in Living Organisms	0	0	8	13.8%
	Concept 2: Reproduction and Heredity	3	3		
	Concept 3: Populations of Organisms in an Ecosystem	0	0		
	Concept 4: Diversity, Adaptation, and Behavior	6	6		
Strand 5: Physical Science	Concept 1: Properties and Changes of Properties in Matter	7	6	10	31.0%
	Concept 2: Motions and Forces	5	5	8	
	Concept 3: Transfer of Energy	0	0	0	
Strand 6: Earth and Space Science	Concept 1: Structure of the Earth	0	0	0	0%
	Concept 2: Earth's Processes and Systems	0	0		
	Concept 3: Earth in the Solar System	0	0		
12/6/2005	Total Concepts = 18 Testable Concepts = 12	56	44	58	100%

Source: [http://www.azed.gov/standards/aims/blueprints/AIMS\\_Science\\_TestBlueprints\\_Grade%208.pdf](http://www.azed.gov/standards/aims/blueprints/AIMS_Science_TestBlueprints_Grade%208.pdf)



**Table 3.2.5**  
**AIMS blueprint for Science High School**

**AIMS Science**  
**High School Test Blueprint**

Strand	Concept	Number of POs	Number of testable POs	Number of Test Items	Percentage of Test
Strand 1: Scientific Inquiry	Concept 1: Observations, Questions, and Hypotheses	4	4	6	33.8%
	Concept 2: Scientific Testing (Investigating and Modeling)	5	3	6	
	Concept 3: Analysis, Conclusions, and Refinements	7	5	6	
	Concept 4: Communication	4	2	4	
Strand 2: History and Nature of Science	Concept 1: History of Science as a Human Endeavor	4	2	6	9.2%
	Concept 2: Nature of Scientific Knowledge	4	3		
Strand 3: Science in Personal and Social Perspectives	Concept 1: Changes in Environments	5	3	7	10.8%
	Concept 2: Science and Technology in Society	5	3		
	Concept 3: Human Population Characteristics	3	1		
Strand 4: Life Science	Concept 1: The Cell	5	3	6	46.2%
	Concept 2: Molecular Basis of Heredity	4	3	6	
	Concept 3: Interdependence of Organisms	3	2	6	
	Concept 4: Biological Evolution	6	6	6	
	Concept 5: Matter, Energy, and Organization in Living Systems (Including Human Systems)	5	5	6	
Total Concepts = 14 Testable Concepts = 14		64	45	65	100%

12/6/2005

Source: [http://www.azed.gov/standards/aims/blueprints/AIMS\\_Science\\_TestBlueprints\\_HS.pdf](http://www.azed.gov/standards/aims/blueprints/AIMS_Science_TestBlueprints_HS.pdf)

### 3.3 Description of AIMS 2008 Tests

The test blueprints were used with the processes described in detail in Part 4 to develop all AIMS tests administered in 2008. The resulting test configurations are as follows. This year a number of items called drift anchors were placed on all operational multiple choice tests. These items had not been administered since 2005. The purpose of the inclusion of these items was to determine scale drift from 2005 to 2008. This study will be reported separately.

#### 3.3.1 High School Reading (Criterion-referenced only)

The AIMS CRT high school Reading test consisted of 54 multiple-choice items developed by Arizona teachers. The raw scores ranged from 0-54 and scale scores were designed to range from 500 to 900. All items on the high school Reading test reported to a criterion-referenced score. No norm-referenced items were included on the high school Reading test.

#### 3.3.2 High School Writing (Criterion-referenced only)

The AIMS CRT high school Writing test consisted of one extended response Writing prompt. Responses to the prompt were scored on the six-trait analytic rubric. Each trait received two ratings. Final scores for traits with adjacent ratings were derived by averaging the two ratings. Final scores for traits with discrepant ratings were resolved by a third rater. The raw scores ranged from 0-36 and scale scores were designed to range from 500-900. There were two forms of the high school Writing test, A and T. Form T was used as a make-up form administered two weeks after the operational window. No norm-referenced items were included on the high school Writing tests.

#### 3.3.3 High School Mathematics (Criterion-referenced only)

The AIMS CRT high school Mathematics test originally consisted of 85 multiple-choice items developed by Arizona teachers. The raw scores ranged from 0-85 (0-84 for Braille) and scale scores were designed to range from 500 to 900. All items on the high school Mathematics test reported to a criterion-referenced score. No norm-referenced items were included in the high school Mathematics test.

#### 3.3.4 Grades 3-8 Reading and Language (Dual Purpose Assessment)

The AIMS Reading tests for grades 3-8 consisted of both a criterion-referenced and a norm-referenced component. Some items contributed to the CRT component only, some items contributed to the NRT component only, and some items contributed to both CRT and NRT components.

The AIMS CRT Reading tests for grades 4-8 consisted of 39 items developed by Arizona teachers and 15 *TerraNova* items that map to the Arizona content standards for a total of 54 items. The AIMS CRT Reading test for grade 3 consisted of 42 items developed by Arizona teachers and 12 *TerraNova* items that map to the Arizona content standards for a total of 54 items. The raw scores on all tests ranged from 0-54. Detailed test structure information can be found in Table 3.3.1. Scale score ranges are presented in Table 3.3.7. Scaling of AIMS CRT Reading is discussed in Part 7 of this technical report.

The left hand side of Table 3.3.1 presents the number of items that contributed to the AIMS Reading CRT component, the AIMS Reading NRT component, and the AIMS language NRT component for each grade. The number of *TerraNova* Reading items that contributed to both AIMS Reading CRT and AIMS Reading NRT component is also reported. The total number of test items

on the test is the composite of the number of field test items, CRT items, NRT Reading, and NRT language items.

The right hand side of Table 3.3.1 presents the number of anchor items used in the annual equating for each grade. The number of common dual purpose items and common NRT only items between 2006 and 2007 are also reported. The total number common item between years is the composite of the number of anchor items, common dual purpose items, and common NRT only items.

The AIMS NRT Reading tests for grades 3-8 consisted of 25 *TerraNova* Reading items from *TerraNova* Form D Complete Battery. The AIMS NRT Reading tests closely approximated the test blueprint and statistical criteria of *TerraNova* Form D Complete Battery. The *TerraNova* Reading items were embedded within the AIMS DPA Reading test. Scale scores are reported on the *TerraNova* Reading NRT scale. Norms are reported using the 2000 *TerraNova* norms and a quarter month of 30.

The AIMS NRT language tests for grades 3-8 consisted of 20 *TerraNova* language items from *TerraNova* Form D Complete Battery. The AIMS NRT language tests closely approximated the test blueprint and statistical criteria of *TerraNova* Form D Complete Battery. The *TerraNova* language items were embedded within the AIMS DPA Reading test. Scale scores are reported on the *TerraNova* language NRT scale. Norms are reported using the 2000 *TerraNova* norms and a quarter month of 30. Tables 3.3.4 and 3.3.5 present more detailed information about the blueprint representation of *TerraNova* Form D Complete Battery and the AIMS NRT tests. No NRT items were used as anchor items.

### **3.3.5 Grades 3-8 Writing (Criterion-referenced only)**

The AIMS Writing tests for grades 3-8 consisted of one extended response writing prompt per administration reporting to a criterion-referenced score only. Responses to the prompt were scored on the six-trait analytic rubric. Each trait received one rating. The raw scores ranged from 0-36. Scale score ranges are presented in Table 3.3.6. Scaling of AIMS CRT Writing is discussed in Part 7 of this technical report.

### **3.3.6 Grades 3-8 Mathematics (Dual Purpose Assessment)**

The AIMS Mathematics tests for grades 3-8 consisted of both a criterion-referenced and norm-referenced component to allow for both criterion-referenced and norm-referenced scores. Some items contributed to CRT scores only, some items contributed to NRT scores only, and some items contributed to both CRT and NRT scores. No NRT items were used as anchor items.

The AIMS CRT Mathematics tests for grades 3 consisted of 57 items developed by Arizona teachers and 15 *TerraNova* items that map to the Arizona content standards for a total of 72 items. The AIMS CRT Mathematics tests for grades 4 consisted of 55 items developed by Arizona teachers and 15 *TerraNova* items that map to the Arizona content standards for a total of 70 items. The AIMS CRT Mathematics tests for grades 5 through 7 consisted of 53 items developed by Arizona teachers and 15 *TerraNova* items that map to the Arizona content standards for a total of 68 items. The AIMS CRT Mathematics test for grade 8 consisted of 53 items developed by Arizona teachers and 13 TN items that map to the Arizona content standards for a total of 66 items. Detailed test structure information can be found in Tables 3.3.2. The raw score and scale score ranges are presented in Table 3.3.6. Scaling of AIMS CRT Mathematics is discussed in Part 7 of this technical report.

The left hand side of Table 3.3.2 presents the break down of the number of items that contributed to the AIMS Mathematics CRT and the AIMS Mathematics NRT component for each grade. The number of *TerraNova* Mathematics items that contributed to both components is also reported. The

total number of test items on the test is the composite of the number of field test items, the number of CRT items, and the number of NRT items.

The right hand side of Table 3.3.2 presents the number of anchor items used in the annual equating for each grade. The number of common dual purpose items and NRT only items between 2006 and 2007 is also reported. The total number common item between years is the composite of the number of anchor items, the number of common dual purpose items, and the number of common NRT only items.

The AIMS NRT Mathematics tests for grades 3-8 consisted of 25 *TerraNova* Mathematics items from *TerraNova* Form D Complete Battery. The AIMS NRT Mathematics tests closely approximated the test blueprint and statistical criteria of *TerraNova* Form D Complete Battery. Scale scores are reported on the *TerraNova* Mathematics NRT scale. Norms are reported using the 2000 *TerraNova* norms and a quarter month of 30. Table 3.3.6 presents more detailed information about the blueprint representation of *TerraNova* Form D Complete Battery and the AIMS NRT tests.

Items on the AIMS DPA Reading and Mathematics tests that reported to a criterion-referenced score were either developed by Arizona teachers or were *TerraNova* items that matched the Arizona content standards. No norm-referenced only Reading items or Mathematics items reported to the AIMS DPA criterion referenced scores. No *TerraNova* language items reported to the AIMS DPA criterion referenced scores for Writing.

### **3.3.7 Language Arts Composite**

A language arts composite score was also computed for each student. This composite is the mathematical average of the AIMS Reading and Writing scale scores. The language arts score is not reported to students, parents, or teachers. This composite score is provided to ADE in the electronic data only for calculating and reporting annual yearly progress under NCLB legislation.

### **3.3.8 Grade 4 Science (Criterion-referenced only)**

The AIMS 2008 CRT grade 4 Science test consisted of two operational forms each with 54 multiple-choice items developed by Arizona teachers. The raw scores ranged from 0-54 and scale scores were designed to range from 200 to 800. All items on the grade 4 Science test reported to a criterion-referenced score. No norm-referenced items were included on the grade 4 Science test.

### **3.3.9 Grade 8 Science (Criterion-referenced only)**

The AIMS 2008 CRT grade 8 Science test consisted of two operational forms each with 58 multiple-choice items developed by Arizona teachers. The raw scores ranged from 0-58 and scale scores were designed to range from 200 to 800. All items on the grade 8 Science test reported to a criterion-referenced score. No norm-referenced items were included on the grade 8 Science test.

### **3.3.10 High School Science (Criterion-referenced only)**

The AIMS 2008 CRT high school Science test consisted of two operational forms each originally with 65 multiple-choice items developed by Arizona teachers. However, one item was dropped from each form of the regular version and the Braille version due to content considerations after test books were printed. Student test scores and all reports excluded the dropped items. The raw scores ranged from 0-64 and scale scores were designed to range from 200 to 800. All items on the high school Science test reported to a criterion-referenced score. No norm-referenced items were included in the high school Science test.

**Table 3.3.1 Spring 2008 AIMS Test Structure Reading and Language**

Grade	FT	RD CRT only	RD NRT / CRT	RD NRT only	RD CRT TOTAL (CRT+N RT / CRT)	RD NRT TOTAL	LA NRT only	LA NRT TOTAL	TOTAL ITEMS ON TEST	I. Anchor Items	II. Drift Anchor Items	III. Common NRT/CRT	IV. Common NRT items	Total Common Items (I+II+III+IV)
3	10	42	12	13	54	25	20	20	97	20	10	12	13	55
4	10	39	15	10	54	25	20	20	94	18	5	15	10	48
5	10	39	15	10	54	25	20	20	94	18	9	15	10	52
6	10	39	15	10	54	25	20	20	94	21	4	15	10	50
7	10	39	15	10	54	25	20	20	94	28	4	15	10	57
8	10	39	15	10	54	25	20	20	94	24	8	15	10	57
HS*	10	54			54				64	20	3	0	0	23

\*High School has 10 embedded field test forms, for a total of 100 field test items

**Table 3.3.2 Spring 2008 AIMS Test Structure Math**

Grade	FT	MA CRT only	MA NRT /CRT	MA NRT only	MA CRT TOTAL (CRT+N RT / CRT)	MA NRT TOTAL	TOTAL ITEMS ON TEST	I. Anchor Items	II. Drift Anchor Items	III. Common NRT/CRT	IV. Common NRT items	Total Common Items (I+II+III+IV)
3	10	57	15	10	72	25	92	33	17	15	10	75
4	10	55	15	10	70	25	90	35	15	15	10	75
5	10	53	15	10	68	25	88	29	19	15	10	73
6	10	53	15	10	68	25	88	26	17	15	10	68
7	10	53	15	10	68	25	88	30	18	15	10	73
8	10	53	13	12	66	25	88	36	14	13	12	75
HS*	15	85			85		100	29	11	0	0	40

\*High School test has 10 embedded field test forms, for a total of 150 field test items.

\*High School Braille has one less item than regular form since one item as suppressed. The suppressed item happens to be anchor item. The number of anchor items is 41.

**Table 3.3.3 Spring 2008 AIMS Test Structure Science**

Grade	Number of Forms	Unique SCI items per form	Total unique items	Common SCI CRT	SCI CRT TOTAL (unique + common) per Form
4	2	32	64	22	54
8	2	31	62	27	58
HS	2	44	88	20	64

**Table 3.3.4 TerraNova and AIMS NRT Blueprint Representation Reading**

Grade	TerraNova Strand				Total
	02 Basic Understanding	03 Analyze Text	04 Evaluate and Extend Meaning	05 Identify Reading Strategies	
3					
N items TN CB	14	10	8	10	42
% items TN CB	33%	24%	19%	24%	100%
N items AIMS NRT	8	8	4	5	25
% items AIMS NRT	32%	32%	16%	20%	100%
4					
N items TN CB	18	19	7	6	50
% items TN CB	36%	38%	14%	12%	100%
N items AIMS NRT	9	9	4	3	25
% items AIMS NRT	36%	36%	16%	12%	100%
5					
N items TN CB	14	15	8	9	46
% items TN CB	30%	33%	17%	20%	100%
N items AIMS NRT	8	8	4	5	25
% items AIMS NRT	32%	32%	16%	20%	100%
6					
N items TN CB	16	12	5	9	42
% items TN CB	38%	29%	12%	21%	100%
N items AIMS NRT	9	8	3	5	25
% items AIMS NRT	36%	32%	12%	20%	100%
7					
N items TN CB	13	18	12	7	50
% items TN CB	26%	36%	24%	14%	100%
N items AIMS NRT	6	9	6	4	25
% items AIMS NRT	24%	36%	24%	16%	100%
8					
N items TN CB	16	17	9	6	48
% items TN CB	33%	35%	19%	13%	100%
N items AIMS NRT	8	9	5	3	25
% items AIMS NRT	32%	36%	20%	12%	100%

Note. TN CB= TerraNova Complete Battery D, AIMS NRT = Arizona Instrument to Measure Standards Norm Referenced Test.

**Table 3.3.5 TerraNova and AIMS NRT Blueprint Representation Language**

Grade	TerraNova Strand			Total
	07 Sentence Structure	08 Writing Strategies	09 Editing Skills	
3				
N items TN CB	7	8	13	28
% items TN CB	25%	29%	46%	100%
N items AIMS NRT	5	5	10	20
% items AIMS NRT	25%	25%	50%	100%
4				
N items TN CB	7	8	15	30
% items TN CB	23%	27%	50%	100%
N items AIMS NRT	3	6	11	20
% items AIMS NRT	15%	30%	55%	100%
5				
N items TN CB	11	13	10	34
% items TN CB	32%	38%	29%	100%
N items AIMS NRT	6	8	6	20
% items AIMS NRT	30%	40%	30%	100%
6				
N items TN CB	10	16	12	38
% items TN CB	26%	42%	32%	100%
N items AIMS NRT	5	8	7	20
% items AIMS NRT	25%	40%	35%	100%
7				
N items TN CB	13	10	7	30
% items TN CB	43%	33%	23%	100%
N items AIMS NRT	8	7	5	20
% items AIMS NRT	40%	35%	25%	100%
8				
N items TN CB	8	13	11	32
% items TN CB	25%	41%	34%	100%
N items AIMS NRT	5	7	8	20
% items AIMS NRT	25%	35%	40%	100%

Note. TN CB= *TerraNova* Complete Battery D, AIMS NRT = Arizona Instrument to Measure Standards Norm Referenced Test.

**Table 3.3.6 TerraNova and AIMS NRT Blueprint Representation Mathematics**

Grade	TerraNova Strand								Total
	10 Number and Number Relations	11 Computation and Numerical Estimation	12 Operation Concepts	13 Measurement	14 Geometry and Spatial Sense	15 Data Analysis, Statistics, and Probability	16 Patterns, Functions, Algebra	17 Problem Solving and Reasoning	
<b>3</b>									
N items TN CB	8	12	4	6	6	6	4	4	50
% items TN CB	16%	24%	8%	12%	12%	12%	8%	8%	100%
N items AIMS NRT	4	5	2	2	3	3	3	3	25
% items AIMS NRT	16%	20%	8%	8%	12%	12%	12%	12%	100%
<b>4</b>									
N items TN CB	7	15	7	7	6	7	3	5	57
% items TN CB	12%	26%	12%	12%	11%	12%	5%	9%	100%
N items AIMS NRT	3	6	4	3	3	3	1	2	25
% items AIMS NRT	12%	24%	16%	12%	12%	12%	4%	8%	100%
<b>5</b>									
N items TN CB	11	12	5	6	6	9	4	4	57
% items TN CB	19%	21%	9%	11%	11%	16%	7%	7%	100%
N items AIMS NRT	4	5	2	3	4	3	2	2	25
% items AIMS NRT	16%	20%	8%	12%	16%	12%	8%	8%	100%
<b>6</b>									
N items TN CB	11	13	3	6	5	7	7	4	56
% items TN CB	20%	23%	5%	11%	9%	13%	13%	7%	100%
N items AIMS NRT	5	4	2	3	3	2	4	2	25
% items AIMS NRT	20%	16%	8%	12%	12%	8%	16%	8%	100%
<b>7</b>									
N items TN CB	10	12	2	6	7	10	6	4	57
% items TN CB	18%	21%	4%	11%	12%	18%	11%	7%	100%
N items AIMS NRT	5	3	2	3	3	4	3	2	25
% items AIMS NRT	20%	12%	8%	12%	12%	16%	12%	8%	100%
<b>8</b>									
N items TN CB	11	10	1	5	7	10	8	4	56
% items TN CB	20%	18%	2%	9%	13%	18%	14%	7%	100%
N items AIMS NRT	5	3	1	2	3	4	4	3	25
% items AIMS NRT	20%	12%	4%	8%	12%	16%	16%	12%	100%

Note. TN CB= TerraNova Complete Battery D, AIMS NRT = Arizona Instrument to Measure Standards Norm Referenced Test.



**Table 3.3.7**  
**Raw Score and Scale Score ranges of AIMS 2008 CRT Assessments**

Content	Grade	Raw Score range	Scale Score range
Reading	3	0-54	200-640
	4	0-54	220-660
	5	0-54	240-675
	6	0-54	250-690
	7	0-54	260-720
	8	0-54	270-800
	HS <sup>a</sup>	0-54	500-900
Writing	3	0-36	200-650
	4	0-36	230-700
	5	0-36	255-740
	6	0-36	275-760
	7	0-36	290-770
	8	0-36	300-800
	HS <sup>a</sup>	0-36	500-900
Mathematics	3	0-72	200-650
	4	0-70	230-675
	5	0-68	255-700
	6	0-68	270-725
	7	0-68	290-740
	8	0-66	300-800
	HS <sup>a</sup>	0-85/84 <sup>b</sup>	500-900
Science	4	0-54	200-800
	8	0-58	200-800
	HS	0-64	200-800

<sup>a</sup>HS tests are not on the same scale as G3-8 tests. Scale scores are therefore not comparable between the HS and G3-8 tests. See Part 7 for information regarding the scaling of the AIMS assessment.

<sup>b</sup>Note that the HS assessment originally included 85 items. However, one item was dropped from the Braille version due to content considerations after test books were printed. Student test scores and all reports excluded the dropped item.

## **Part 4: Test Development**

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Part 4 of the technical report provides a summary of the test development activities that occurred during the 2007-2008 contract year. Information is provided relating to the following topics as they pertain to AIMS:

- a discussion of the AIMS test book creation and editing process;
- a description of the use of previously created AIMS item specifications;
- a description of the AIMS passage development and review procedures;
- a description of the AIMS Science stimulus and blueprint development and review procedures;
- a description of the AIMS item writing procedures;
- a description of content and bias/sensitivity review procedures for AIMS items;
- a description of the AIMS item selection committee meetings, and
- a description of the data analysis committee procedures.

A comprehensive, multi-segment development process guides the development of assessment materials. The following section outlines this process in general terms. The remainder of Part 4 provides details of how these processes were implemented in Arizona. This section of the technical report addresses the following AERA/APA/NCME standards: 1.6, 3.1, 3.5, 3.6, 3.7, 3.9, 3.11, 3.16, 6.4, 6.15, 7.3, 7.4, 7.7, 13.3, and 13.5.

### **4.1 AIMS Test Development and Editing Process**

#### **4.1.1 Test Development Process**

Test development for the 2008 test administration began with the customer kick-off meeting in February of 2007. During this phase, the project deliverables were defined, such as test books, answer documents, test administration manuals, test coordinator manuals, test interpretation guides, and materials to support special accommodations, including Braille and large print books. The actual test form design was unchanged from the previous year. The ancillary materials were modified and all modifications were discussed and shared among all team members to ensure understanding.

#### **4.1.2 Documents and Materials Development**

Following definition of project deliverables, CTB's entire test development team reviewed the blueprints, item specifications, and ADE style guide to insure that the 2008 assessment would meet all of the required, previously-developed criteria. Field test items were developed for all content areas forms were developed to insure a sufficient supply of items would be available to be placed on operational forms for the 2008 assessments.

#### **4.1.3 Item Development and Editing**

The development of AIMS assessments for 2008 involved many professionals from CTB and ADE collaborating in an effort to insure that all newly developed items closely match the Arizona Content Standards and the item specifications, while addressing the need to expand the Arizona Item Bank. The Arizona teachers selected to serve on item writing committees all possessed content and assessment expertise and the ability to be creative while adhering to the test blueprint, detailed item

specifications, and content limits. There was a considerable amount of professional development provided to integrate new item writers with more experienced item writers. Test items were developed by Arizona teachers using a template to capture all requirements and supporting information such as strand, concept, performance objective, and content reference documentation. After the item writing workshops were concluded, test items were edited and revised by in-house content editors, style editors, art specialists, hand scoring staff, and research scientists for content appropriateness and standards match. CTB then prepared the Science items for review by an ADE-designated expert reviewer. After passing these committees, the items were prepared for incorporation into the field test portion of the operational 2008 AIMS assessments.

#### **4.1.4 Quality Reviews**

ADE and CTB personnel implement a series of quality review checks at various stages of production to assure all AIMS materials are error free.

ADE first reviews each component at a relatively early stage of page production. Items are compared to the way they were presented to the content/bias review committee to be sure no unauthorized changes had been introduced. Answer keys are checked. All changes are approved in writing by ADE.

A smooth AIMS test administration requires that all test materials, including test books, answer documents, and directions to students and test coordinators align with each other. Therefore, CTB conducted a materials integration review (MIR) as the second quality check. A side benefit of this review was the possible revision of any unclear items.

Prior to creation of camera copy, CTB performed a third quality assurance (QA) review. The purpose of the QA review was to ensure that all publishable products met ADE's high quality standards and expectations.

After CTB conducted their QA review, all test forms were again submitted to ADE for review. All final forms and documents were reviewed and approved by ADE content specialists.

## **4.2 Pool of Items Used for Test Construction**

### **4.2.1 Item Specifications**

Prior to item writing, ADE and CTB reviewed the item specifications. The Item Specifications are living documents and need to be constantly reviewed. The purpose of the review and revision was to provide further clarity for how AIMS will measure students' understanding of the standards. This is based on feedback from previous item writing workshops. ADE and CTB staff reviewed the definition of what is being tested by each Performance Objective (PO) and where needed, clarified the PO statements, the content limits, and the stimulus and response attribute descriptions. Taken together, these revisions further help to inform instruction by explaining in detail what each PO means at each grade level and by describing how each PO is to be tested.

The resulting documents were used during item writing. Refinements and inputs were implemented. During item writing, it became clear that the item specifications would continue to require clarification and refinement in order to assure varied PO coverage within the test blueprint each year. More and varied illustrative samples for each PO need to be created that truly reflect the item specification components and clearly test the PO. These item specifications should continue to be refined as needed.

### 4.2.2 Reading Passage Development and Review

The types of passages commissioned reflect the kinds of reading required by the AZ Reading Standards. Table 4.2.2.1 shows the kinds of passages commissioned to support the 2008 assessment (Literary, Expository, and Functional). Table 4.2.2.1 also shows that 22 of the 60 passages to be considered for field testing in spring 2008 were passages that had been commissioned for earlier years but not selected to be field tested in those years. These are shown in the columns shaded gray. Of these 22, 14 had already been approved by a Passage Review committee and did not require further approval. The remaining 8 passages did require review and approval. Therefore, the Spring 2008 passage development cycle began with a supply of 60 passages, with 38 new passages to be developed.

Assignments for these 38 passages were created to address the obvious need to increase the number of Expository and Functional passages and items in the item bank. Arizona teachers were asked for topic suggestions that would be meaningful and relevant to students across the state. Passages were commissioned by the contractor. Passage authors included professional writers and freelance writers.

Upon receiving newly-written passages, the contractor reviewed them to be sure:

- all were well-written;
- all were rich in content and subject matter;
- all were age and grade appropriate;
- all avoided stereotyping and controversial, confusing, or emotionally-charged topics;
- together they reflected a range of multi-cultural content;
- some reflected the diversity of Arizona and the Southwest region; and
- all were written in such a way that no group would have an advantage or disadvantage.

In all, 46 passages were prepared for a Passage Review workshop held on March 22 and 23, 2007. These were comprised of a combination of passages unused in previous years and newly commissioned passages.

**Table 4.2.2.1**  
**Passages Prepared for Passage Review in AZ March 2007**

Grade	Literary		Expository		Functional		Total available from a previous	Total newly Commissioned	Total Taken to Passage Review
	# available from a previous year	# newly commissioned	# available from a previous year	# newly commissioned	# available from a previous year	# newly commissioned			
3	1		1	3		2	2	5	6
4				4	1	1	1	5	5
5		1		4				5	5
6			2	2	1	1	3	3	6
7		1	2	2	1		3	3	5
8		1	2	2			2	3	5
HS		4		7		3	0	14	14
total	1	7	7	24	3	7	11	38	46

Those 46 passages were prepared for review in Passage Review Books. Each grade level review book contained the passages for that grade. Each passage was on a template that included the word count, genre, and the POs for which items could be written. The template also included space for reviewers to indicate their acceptance or rejection of the passage based on two back-to-back reviews: one for content and one for sensitivity issues. During a general session, all reviewers were provided with the review criteria for each type of review.

Content criteria included:

- Prior Knowledge/Audience/Appropriateness – Subject matter should be grade appropriate and not require specialized knowledge or background on the part of the reader.
- Interest – The material should engage the student. Students should find the topic interesting
- Coherence/Cohesiveness – The passage should provide clear links between sentences and paragraphs. Antecedent reference should be clear and unambiguous.
- Writing Style/Passage Structure – The writing style should be consistent throughout the passage. Ideas should be presented in logical order.
- Unity/Purpose – Ideas should flow in a unified direction. The passage should have a clear purpose.
- Conceptual Density – Passage should place reasonable conceptual demands on the reader. New, unusual, or difficult terms should be explained using vocabulary familiar to the reader.
- Explication – Nonfiction passages should provide a balance between information that is stated directly and information that requires the reader to make inferences.
- Representation/Accuracy – Passages must represent their genre and contain factual information. Facts should be documented from reliable sources.
- Organizational Aids – Organizational aids, such as headings, diagrams, or introductions should be included where applicable.
- Story Structure – Passages should contain sufficient structure to support a variety of questions.

Sensitivity issues included:

- Passages should be free of specific references to or descriptions of events of extreme sadness or adversity; acts of physical or psychological violence; alcohol or drug abuse; vulgar language; or sex.
- Religious, political, social, or psychological issues should be presented so that more than one point of view is expressed; factual accuracy is maintained; controversial contemporary issues are avoided; and stereotypical descriptions of beliefs or customs are avoided.
- Offensive, disturbing, inappropriate language or content is not used.
- There should be no evidence of stereotyping based on gender, race, ethnicity, religion, socioeconomic status, age, regional or geographic area, disability, or occupation.

- Passages should be free of differential familiarity for any group based on language, socioeconomic status, regional or geographic area, or prior knowledge or experiences unrelated to the subject matter being tested.

Reviewers who represented all grade levels and Arizona's rich ethnic and cultural diversity read each passage, discussed its content, and either accepted passages as they were or suggested revisions which were incorporated during the review sessions. A laptop connected to a projector allowed participants to revise passages on the spot. Table 4.2.2.2 shows the number of passages brought to passage review and the number accepted. Of the 46 passages taken to Passage Review, 39 (approximately 85%) were accepted for use during item writing workshops

**Table 4.2.2.2**  
**Results March 2007 of Passage Review**

Grade	Total Passages Reviewed	Total Passages Accepted
3	6	5
4	5	5
5	5	5
6	6	6
7	5	4
8	5	5
HS	14	9
TOTAL	46	39

The 39 newly accepted passages were considered for item writing use along with the 14 passages that had been previously approved (but not used). Because there were more passages reviewed than actually needed, the committees ranked the passages and selected the passages for which items would be written. Accepted passages were available for item writing later in the month.

### 4.2.3 Item Writing

Prior to the item writing workshop, contractor content teams performed a thorough gap analysis. They analyzed the pool of available items, calculated the portion of items in the pool for each strand and concept, compared the results to the portion needed for each strand/concept per the blueprint, and created assignments targeted to fill the gaps. Items for the AIMS CRT tests are written by Arizona teachers and facilitated by the testing contractor. Item writing workshops were conducted in Arizona on April 23 through 26, 2007. In addition to representing all grade levels and geographic regions of the state, writers were selected on the basis of the criteria already established for item writers by ADE. Their task was to write sufficient items to bring to Content/Sensitivity review and still have the number of items needed, after attrition, to support the spring 2008 assessments and spring 2009 operational test. For DPA Reading and Math, this meant writing enough items to field test four forms per grade. For High School Reading and Math, this meant writing enough items to support 10 forms. DPA item writing teams were arranged by grade level spans (3 through 5 and 6 through 8) with their work spread over a three-day session. Table 4.2.3 shows the team arrangement, the number of items needed per grade, the number of existing, unused items written in 2007 that could be revised and used in 2008, the number of new items they were expected to produce, and the time allotted for their task. Appendix B contains the item writer selection criteria. Appendix C contains the PowerPoint slides used during the AIMS Item Writing Workshop.

**Table 4.2.3 Item Writing Plan**

Content Area	Grade	Total Items Needed	Items on Hand to Revise	New items to Write	Days
Reading	3	90	19	71	3
	4	90	20	70	3
	5	90	24	66	3
	6	90	10	80	3
	7	90	10	80	3
	8	90	21	69	3
	HS	210	26	184	3
Math	3	60	1	59	3
	4	60	0	60	3
	5	60	2	58	3
	6	60	1	59	3
	7	60	0	60	3
	8	60	1	59	3
	HS	210	80	130	3
<b>TOTAL</b>		<b>1320</b>	<b>215</b>	<b>1105</b>	

Assignments were created to result in a set of items that would enhance the item pool. Each group was given copies of the item specifications (see section 4.2.1), style guides, vocabulary word lists, and checklists to guide their writing. Writers worked in teams to draft their items on templates. In-room facilitators offered assistance and advice. Contractor staff reviewed the items each evening and performed the first of several rounds of content and style editing. Data entry support staff entered each day's items into computers and provided electronic versions the following morning. The first part of each succeeding morning was spent conducting group editing sessions. Facilitators projected the e-versions onto a screen and discussed the suggested edits. Together, the group evaluated each item to be sure the content, difficulty, and vocabulary were appropriate for the grade level; that the context, if any, was appealing and plausible; that distractors represented errors students would make; and confirmed that the intended PO was being assessed. They discussed the suggested revisions and arrived at items that met everyone's satisfaction. Lessons learned during these group editing sessions were applied to that's day's assignments.

The contractor took the resulting items through another careful content review and style edited the items in preparation for Content/Sensitivity Review (see section 4.2.4). Items not chosen for field testing in Spring 2008 were retained for consideration the following year.

#### **4.2.4 Content/Sensitivity Review**

Content and Sensitivity Reviews for all Reading and Math items were conducted by Arizona educators and facilitated by contractor staff in June 2007. The purposes of the Content Review were to verify the accuracy, difficulty range, depth of knowledge, and grade-appropriateness of potential test items and to verify their alignment to the intended Performance Objective (PO). The purposes of the Sensitivity Review were to verify the items were free of stereotypes or other sources of bias and

to confirm that they reflected community standards. Content and Sensitivity Reviews were conducted separately for each item. But, each item earned just one combined rating: Accept As Is, Accept with Revisions, or Reject. Participants were selected on the basis of their ability to represent their grade level and to assure ethnic, racial, and gender representation. At the conclusion of the reviews, participants selected the passages and items that would be field tested in Spring 2008.

During general sessions, participants received training in what to check during their Content Review, including ensuring that the content of each item:

- is targeted to assess only one PO (unless specifications indicate otherwise);
- deals with material that is important in testing the targeted PO;
- uses grade-appropriate content;
- uses appropriate thinking skills (application, analysis, conclusions, extending);
- is presented at a reading level suitable for the grade level being tested;
- is accurate and documented against reliable, up-to-date sources;
- has a stem that facilitates answering the question or completing the statement without looking at the answer choices;
- has a stem that does not present clues to the correct answer choice;
- has answer choices that are plausible and attractive to the student who has not mastered the objective or skill;
- is conceptually, grammatically, and syntactically consistent—between the stem and answer choices, and among the answer choices;
- has mutually exclusive distractors; and
- has one and only one correct answer choice.

During general sessions, participants received training on what to check during their Sensitivity Review, including ensuring that each item:

- is free of offensive, disturbing, or inappropriate language or content;
- is free of stereotyping based on gender, race, ethnicity, religion, socioeconomic status, age, regional or geographic area, disability, and occupation;
- demonstrates sensitivity to historical representation of groups; and
- is free of differential familiarity for any group based on language, socioeconomic status, regional or geographic area, and prior knowledge or experiences unrelated to the subject matter being tested.

Participants were also asked to ensure that the content of each item was free of explicit references to or descriptions of events involving extreme sadness or adversity; acts of physical or psychological violence; alcohol or drug abuse; vulgar language; or sex.

Throughout the Sensitivity Review, participants were asked to ensure that more than one point of view is expressed when any religious, political, social, or philosophical issues are addressed; beliefs or biases do not interfere with factual accuracy; contemporary issues that have already been proven to be controversial are absent; and stereotypical descriptions of beliefs or customs are absent.

During the reviews, participants were frequently encouraged to discuss each item and to make revisions that would bring the item into compliance with the above conditions. As they



worked, participants were asked to consider the items two separate ways – once for content and once for sensitivity. Considering the results of both reviews, participants were asked to place the items into the following categories: Accept as Is, Accept with Revisions, or Reject.

Overall, the acceptance rates were quite high. Across all grade levels, 96% of the items reviewed were accepted either as is or with revisions. Table 4.2.4.1 shows the number and portion of items classified into each category during Content and Sensitivity Reviews by grade level and content area.

Any item that was rejected either for content or for sensitivity issues was removed from consideration for field testing. In order to ultimately contribute to an item bank of items that measure and support the curriculum and state content standards, selection of the field test items was guided by the test blueprints. The goal was to select 10 items for Grades 3 through 8 per content area (Reading and Mathematics) per form, 10 items for high school Reading per form, 15 items for high school Mathematics per form, and 42 items for grades 4, 8, and high school Science per form so that item data could be collected. Field test item selection was performed by Content/Sensitivity Review participants. Selections were subject to approval by ADE staff. Table 4.2.4.2 shows that 730 field test items were selected for inclusion in field test books.

**Table 4.2.4.1**  
**Content and Sensitivity Review Results**

Content Area	Grade	Items Reviewed	Accepted As Is		Accepted with Revisions		Rejected	
			Count	Percentage	Count	Percentage	Count	Percentage
Reading	3	61	26	43%	29	48%	6	10%
	4	72	26	36%	43	60%	3	4%
	5	90	42	47%	42	47%	6	7%
	6	87	50	57%	37	43%	0	0%
	7	87	64	74%	21	24%	2	2%
	8	99	80	81%	19	19%	0	0%
	HS	230	148	64%	74	32%	8	3%
Reading Total		726	436	60%	265	37%	25	3%
Math	3	49	41	84%	8	16%	0	0%
	4	52	48	92%	3	6%	1	2%
	5	54	52	96%	1	2%	1	2%
	6	55	33	60%	19	35%	3	5%
	7	59	28	47%	28	47%	3	5%
	8	58	28	48%	26	45%	4	7%
	HS	202	91	45%	98	49%	13	6%
Math Total		529	321	61%	183	34%	25	5%
Grand Total		1255	757	60%	448	36%	50	4%

**Table 4.2.4.2**  
**Number of Field Test Items Selected**

Content Area	Number of Grades	Number of Forms	Number of Items Selected
Reading	6 (gr3 through 8)	4	240
Reading	1 (HS)	10	100
Math	6 (gr3 through 8)	4	240
Math	1 (HS)	10	150
TOTAL			730

#### 4.2.5 AIMS CRT Data Analysis

AIMS CRT Data Analysis was conducted July 23 and 24, 2007. Primary responsibility for conducting this workshop rested with ADE. However, a team of 10 experienced test developers from CTB facilitated the data analysis activities. For Reading and Math, Arizona participants included four teachers for each content area and grade level band (grades 3 through 5, grades 6 through 8, and HS) for a total of 24 participants. For Science, Arizona participants included six teachers per grade for each of grades 4, 8, and high school, for a total of 18 participants. The primary purpose of the Data Analysis meeting was to have Arizona educators examine the item data generated during the Spring 2007 field test, assign each item a status code to be included with the item information in the item bank, and determine each items' eligibility for possible selection as an operational item starting in Spring 2008.

Participants were given instruction in how to interpret basic statistical concepts related to item data including p-values, Rasch values, Infit/Outfit, point biserial correlations, response distributions and ethnic and gender differential item functioning (DIF) flags, omit rates, and population counts.

Items that measured the content they were intended to measure and whose statistics were within acceptable limits were assigned Item Acceptable (IA) status. These items were eligible for selection as operational items. Across the three grade levels, 85% of the items received IA status.

Items whose statistics indicated a fixable problem and defined where the item could be improved were assigned Re-Field Test (RFT) status. These items would be revised during future item writing workshops and would be re-field tested in future assessments. RFT appeared in Mathematics only, and on average 12% items received RFT status across Mathematics grade levels.

Items whose statistics indicated they would not function fairly and reliably were rejected and assigned Do Not Use (DNU) status. These items were removed from consideration as operational items. Across the content and grade levels, about 12% of the items were assigned DNU status.

Table 4.2.5.1 shows the number and portion of items classified into each category during Data Analysis by grade level.

**Table 4.2.5.1**  
**Items Given Special Codes**

Content Area	Grade	Items Reviewed	Items Assigned IA Status		Items Assigned RFT* Status		Items Assigned DNU* Status	
Reading	3	40	39	98%	0	0%	1	2%
	4	40	34	85%	0	0%	6	15%
	5	40	34	85%	0	0%	6	15%
	6	40	34	85%	0	0%	6	15%
	7	40	33	83%	0	0%	7	17%
	8	40	33	83%	0	0%	7	17%
	HS	100	94	94%	0	0%	6	6%
Reading Total		340	301	89%	0	0%	39	11%
Math	3	40	37	93%	1	2%	2	5%
	4	40	38	95%	2	5%	0	0%
	5	40	40	100%	0	0%	0	0%
	6	40	27	68%	10	25%	3	7%
	7	40	30	75%	8	20%	2	5%
	8	40	31	78%	5	12%	4	10%
	HS	150	125	83%	19	13%	6	4%
Math Total		390	328	84%	45	12%	17	4%
Science	4	210	178	85%	0	0%	32	15%
	8	210	166	79%	0	0%	44	21%
	HS	210	182	87%	0	0%	28	13%
Science Total		630	526	83%	0	0%	104	17%
Grand Total		1360	1155	85%	45	3%	160	12%

\* Re-field Test (RFT) - Do Not Use (DNU)

#### 4.2.6 AIMS CRT Item Selection

AIMS CRT Item Selection was conducted July 25 and 26, 2007, immediately following the Data Analysis workshop. A team of 10 experienced test developers from CTB facilitated the item selection meeting. For Reading and Math, Arizona participants included five teachers for each content area and grade level band (grades 3 through 5, grades 6 through 8, and HS) for a total of 30 participants. For Science, Arizona participants included five teachers per grade for each of grades 4, 8, and high school, for a total of 15 participants. The primary purpose of the Item Selection meeting was to have Arizona educators select items to place on test forms for the spring 2008 operational test that would produce valid and reliable scores using the items from the 2007 field test administration that had been designated as IA as well as using items from previous test administrations. Two sets of criteria guided the selection of AIMS items: content representation and statistical requirements.

All of the items in the item bank that were available and eligible for selection as operational items in Spring 2008 were displayed on grade level and content area Item Pool tables. With minor

exceptions, the pool consisted of items field tested in 2002 through 2006. The items field tested in Spring 2007 were available in the Data Analysis materials used the previous two days. The Item Pool tables for the math committees were arranged by Performance Objective. The Item Pool tables for the reading committees were arranged by passage. All tables could also be sorted according to any of the columns, making them extremely useful tools for searching for items with specific characteristics. These items formed the pool for item selection. Item images could be viewed electronically via the item bank. Each meeting room was equipped with a laptop loaded with the item bank and a projection screen so that the entire group could view items at the same time.

Each entry on the table contained identification numbers, content alignment information (Strand, Concept, Performance Objective), Performance Objective statements, the most recent test administration, and statistical information about that item (p-value, point biserial, differential item functioning summary flags, Rasch model fit statistics, and the percent of students who omitted the item). Participants were given training to interpret these statistics and statistical guidelines for test selection. These guidelines included a target difficulty level for each test. Specifically, a target mean and standard deviation of selected item p-values, as well as a suggested distribution for the item p-values was provided for each grade/subject combination. Careful adherence to the specified distribution of p-values guaranteed students a reasonable opportunity to do well on a test that would be neither too easy nor too hard.

In addition to selecting items within specific p-values ranges, staff members were also asked to select items with item discriminations that indicate that getting the item correct is reasonably correlated with performance on the entire test (i.e., preferably item correlations greater than 0.3) and do not exhibit the potential for item bias (i.e., the items should not be flagged using various differential item functioning statistics). Though the committees were not provided with Rasch model fit statistics, internal approval procedures just after item selections were completed further ensured that the selected items would be well estimated in the item calibration analyses.

Content considerations were addressed by the test blueprints. Careful adherence to the blueprints guaranteed the tests would validly measure the construct of Math and Reading as represented in the Arizona state content standards, maintain consistency, link to instruction, and allow for selection of items from different performance objectives within each concept. Substantial variance from the test blueprint could alter the test alignment and thus the validity of the scores being reported. Items were selected to represent the significant content categories specified in the test blueprint in the same proportion as the content categories represented in the test blueprint.

Prior to the participant committee meeting, CTB selected a core set of items upon which the operational forms would be constructed. At each grade for Reading and Math, the core consisted of two sets of items that had been on previous operational tests. One set of items was designated “drift anchor” items. This set of items had last been operational in Spring 2005. The other set consisted of items that had been operational at least the previous year (during the Spring 2007 test administration). The inclusion of “drift anchors” from 2005 severely limited the selection of CRT items by the groups. This will not be true of future selections. For Science grades 4, 8, and HS, the Science core consisted of approximately 45% of the operational items to be selected for each test. This over representation of core items (future possible anchor items) was deliberately instituted to accommodate the fact that the Science tests were to be pre-equated. Regardless of content area or grade, each core was carefully selected to meet statistical criteria and to proportionally represent the blueprint. At each grade, the core would serve as a common set of items to appear in all operational forms. Core sets were approved by ADE prior to the item selection workshop. Since the core had already been selected, the target of 25% for core items as determined by the TAC was not

accomplished for this year. The 2009 AIMS will also not meet the target of 25%, however, it is expected that all future years will meet this target number.

To facilitate the selection process and to guarantee that the proper number and proportion of items would be selected, participants were provided with Item Pool Tables and Item Replacement Tables. Table 4.2.6.1 shows a sample of an Item Pool Table and the available data considered by the item selection committee in its selection of replacement items. An analysis of Differential Item Functioning is performed for every administration and the latest values are included in the Item Pool Tables for each grade/content area and provided to participants in the item selection committee. The sample shown in Table 4.2.6.2 is a portion of the Item Replacement Table used by the participants to study their replacement requirements for Grade 3 Mathematics. This table shows the portion relevant to Strand 1 Concept 2 only. The entire table included all strands and concepts. This table shows the portion of columns relevant to Spring 05 and Spring 07. The entire table included the Spring 06 operational items.

The information in the first column shows the blueprint requirements for Strand 1, Concept 2 – 14% of the 72 Operational items (i.e., 10 items) should be covered by items from Strand 1, Concept 2 in the Grade 3 Mathematics test. The next two columns show that three of those 10 items are covered by *TerraNova* NRT/CRT items, leaving 7 slots to be filled with AZ items. Similar columns were provided for each element of the blueprint, guaranteeing exact adherence to the blueprint.

The set of columns labeled Spring 05 Operational Items include all of the AZ items covering Strand 1 Concept 1 that were in the Spring 2005 test. Yellow highlighted cells indicate items designated as drift anchors. The set of columns labeled Spring 07 Operational Items show the items selected to replace the drift anchors as well as the items that were retained from the Spring 2006 administration. These retained items are shown highlighted in blue and were designated as anchor items. During item selection for Spring 2008, the participants' task was to include as many drift anchors as possible, retain as many anchor items as possible, and select items to fill in any gaps in blueprint coverage. As the participants considered each option based on content and difficulty, they could refer to the Item Pool Table to determine if the statistical considerations were being met and to the item bank to see the items.

The sample shown in Table 4.2.6.3 is a portion of the Item Replacement Table used by the participants to study their replacement requirements for Grade 4 Science. This table shows the portion relevant to Strand 1 Concept 1 only. The entire table included all strands and concepts. The information in the first column shows the blueprint requirements for Strand 1, Concept 1 – 6 of the 54 Operational items should be covered by items from Strand 1, Concept 1 in the Grade 4 Science test. Similar rows were provided for each element of the blueprint, guaranteeing exact adherence to the blueprint.

The two sets of columns, labeled Form A Operational Items and Form B Operational Items, provided space for the committees to make and record their selections for each form. Having both forms represented on the same table helped guarantee parallel, comparable selections for each form. Highlighted rows indicate items designated as core items. These items were pre-selected by CTB and approved by ADE. They were pre-entered onto the Item Replacement tables. During item selection, the participants' task was to select items to augment these highlighted core items to construct two forms that would both completely cover the blueprint. As the participants considered each option based on content and difficulty, they could refer to the Item Pool Table to determine if the statistical considerations were being met and to the Data Analysis booklets to see the items.

As selections were made, they were recorded on Item Replacement Tables. These tables were loaded onto computers and projected for group discussion. These tables provided a running record of the selections and further helped to guarantee blueprint coverage.

These tables were completed for all selections and were subject to approval by both ADE and CTB/McGraw-Hill's Research department.

Table 4.2.6.4 shows the number of AIMS Reading and Mathematics items that were selected for each grade. Table 4.2.6.5 shows the number of AIMS Science items that were selected for each grade. All selections were approved by CTB research staff and ADE staff.

**Table 4.2.6.1**  
**Sample Grade 3 Mathematics Item Pool Table**

Content	Grade	AZID	PEID	Form	Item_no	Item Designation	Strand	Concept	PO	Administration	p_value	Rasch	DIF M F	DIF W B	DIF W H	DIF W Aml	DIF W A	PtBis	Infit	Outfit	% Omit
MA	03	3513035	00852875	C	25	FT	1	1	2	Spring 2007	0.72	0.0939	B<	A	A	B>	A	0.42	1.0	0.9	0
MA	03	3513028	00852901	B	49	FT	1	1	6	Spring 2007	0.93	-1.7629	A	A	B>	B>	A	0.36	0.9	0.7	1
MA	03	3513022	00852859	B	22	FT	1	1	11	Spring 2007	0.85	-0.837	B>	A	A	A	A	0.33	1.0	1.0	0
MA	03	3513030	00852905	B	51	FT	1	1	12	Spring 2007	0.66	0.4434	B>	A	B<	A	A	0.36	1.0	1.0	0
MA	03	3513040	00852915	C	51	FT	1	1	13	Spring 2007	0.77	-0.1912	B<	A	A	A	A	0.31	1.0	1.1	0
MA	03	3513049	00852923	D	50	FT	1	1	14	Spring 2007	0.81	-0.4882	A	A	A	A	A	0.17	1.1	1.7	0
MA	03	3513024	00852863	B	24	FT	1	1	15	Spring 2007	0.74	-0.0389	B<	A	B>	B>	A	0.4	1.0	1.0	0
MA	03	3513020	00852895	A	51	FT	1	1	19	Spring 2007	0.34	2.0778	B<	A	B<	A	A	0.31	1.0	1.2	0
MA	03	3513050	00852925	D	51	FT	1	1	19	Spring 2007	0.27	2.5346	B<	B<	B<	B<	A	0.25	1.0	1.3	0
MA	03	3513047	00852919	D	48	FT	1	1	20	Spring 2007	0.5	1.3086	A	A	A	A	B>	0.37	1.0	1.0	0
MA	03	3513013	00852851	A	23	FT	1	2	2	Spring 2007	0.79	-0.4394	B>	B<	B>	A	A	0.34	1.0	1.2	1
MA	03	3513023	00852861	B	23	FT	1	2	6	Spring 2007	0.32	2.2519	B<	A	A	A	A	0.2	1.2	1.4	1
MA	03	3513012	00852849	A	22	FT	1	2	7	Spring 2007	0.74	-0.1006	B<	A	A	A	A	0.39	1.0	0.9	1
MA	03	3513041	00852877	D	21	FT	1	2	9	Spring 2007	0.79	-0.3205	B>	B>	A	A	B>	0.41	0.9	0.8	1
MA	03	3513038	00852911	C	49	FT	1	2	11	Spring 2007	0.4	1.8231	A	A	A	B>	A	0.34	1.0	1.1	0
MA	03	3513027	00852899	B	48	FT	1	2	15	Spring 2007	0.34	2.1156	A	A	A	A	B>	0.18	1.2	1.4	1
MA	03	3513026	00852897	B	47	FT	1	2	16	Spring 2007	0.71	0.1688	B>	A	B>	A	A	0.3	1.1	1.1	0
MA	03	3513017	00852889	A	48	FT	1	2	17	Spring 2007	0.74	-0.0662	B>	A	A	A	A	0.41	1.0	0.9	0
MA	03	3513019	00852893	A	50	FT	1	3	2	Spring 2007	0.67	0.348	A	B<	B<	B<	A	0.39	1.0	1.0	0
MA	03	3513039	00852913	C	50	FT	1	3	2	Spring 2007	0.39	1.8607	B<	A	A	B>	A	0.18	1.2	1.4	1
MA	03	3513045	00852885	D	25	FT	1	3	4	Spring 2007	0.43	1.6723	A	B<	B<	B<	A	0.37	1.0	1.0	1
MA	03	3513029	00852903	B	50	FT	2	1	2	Spring 2007	0.27	2.5463	B>	A	A	A	A	0.12	1.2	1.6	0
MA	03	3513014	00852853	A	24	FT	2	1	3	Spring 2007	0.78	-0.3731	B<	A	B<	B<	A	0.55	0.8	0.6	0
MA	03	3513036	00852907	C	47	FT	2	2	1	Spring 2007	0.82	-0.5907	B>	A	B<	A	A	0.37	1.0	0.9	0
MA	03	3513044	00852883	D	24	FT	2	2	2	Spring 2007	0.65	0.5319	B>	A	B<	B<	A	0.53	0.9	0.8	0
MA	03	3513021	00852857	B	21	FT	2	2	3	Spring 2007	0.45	1.5581	B<	B<	B<	B<	A	0.38	1.0	1.0	0
MA	03	3513031	00852867	C	21	FT	2	4	1	Spring 2007	0.35	2.0987	A	A	A	A	A	0.18	1.2	1.4	0
MA	03	3513037	00852909	C	48	FT	3	1	1	Spring 2007	0.54	1.1125	B<	A	B>	A	B>	0.34	1.1	1.1	2
MA	03	3513025	00852865	B	25	FT	3	1	2	Spring 2007	0.75	-0.057	B<	A	A	A	A	0.42	1.0	0.9	1
MA	03	3513015	00852855	A	25	FT	3	3	2	Spring 2007	0.91	-1.5103	A	A	B>	B>	A	0.36	0.9	0.7	1
MA	03	3513048	00852921	D	49	FT	4	1	3	Spring 2007	0.7	0.2443	A	B<	B<	A	A	0.4	1.0	1.0	0
MA	03	3513042	00852879	D	22	FT	4	1	4	Spring 2007	0.87	-0.9686	A	A	A	A	B>	0.12	1.1	1.5	0
MA	03	3513018	00852891	A	49	FT	4	2	1	Spring 2007	0.83	-0.7638	B<	B<	A	B>	A	0.19	1.1	1.4	0
MA	03	3513032	00852869	C	22	FT	4	2	1	Spring 2007	0.46	1.4967	B<	A	B<	A	A	0.32	1.1	1.1	1
MA	03	3513011	00852847	A	21	FT	4	3	1	Spring 2007	0.75	-0.1602	B>	A	B>	A	A	0.31	1.1	1.1	0
MA	03	3513043	00852881	D	23	FT	4	4	1	Spring 2007	0.26	2.5753	B>	A	B<	A	A	-0.01	1.4	1.9	1
MA	03	3513016	00852887	A	47	FT	4	4	2	Spring 2007	0.77	-0.2887	B<	B<	A	B>	A	0.42	0.9	0.9	0
MA	03	3513034	00852873	C	24	FT	4	4	6	Spring 2007	0.71	0.1826	A	A	B<	A	A	0.24	1.1	1.2	0
MA	03	3513046	00852917	D	47	FT	4	4	10	Spring 2007	0.85	-0.8505	A	A	B>	A	A	0.28	1.0	1.1	0
MA	03	3513033	00852871	C	23	FT	5	1	1	Spring 2007	0.73	0.0728	B>	A	B<	B<	A	0.42	1.0	0.9	1

**Table 4.2.6.2  
Sample Grade 3 Mathematics Item Replacement Table**

# of AZ Items needed	Strand	Concept	Spring 05 Operational Items			Spring 07 Operational Items			Spring 08 - New Operational Items								
			Actual # of AZ Items in Spring 05	Item #	AZID	Actual # of AZ Items in Spring 07	AZID	PEID	Actual # of AZ Items in Spring 08	Selections							
										PO	AZID	PEID	P-VALUE	Rasch	Anchor	Drift Anchor	
7	1	2	7	1	3139112	7	3139112	00586490	7	1.2.16							
	1	2		67	3139140		3260659	00586872		1.2.6	3139140	00586558	0.56	0.9507		yes	
	1	2		88	3139119		3139119	00586594		1.2.7	3139119	00586594	0.78	-1.1193	yes		
	1	2		75	3139236		3139236	00586574		1.2.9	3139236	00586574	0.83	-0.7810	yes		
	1	2		13	3156997		3156997	00586506		1.2.10	3156997	00586506	0.78	-0.3529	yes		
	1	2		53	3139242		3139242	00586530		1.2.11	3139242	00586530	0.77	-0.3585	yes		
	1	2		4	3139131		3139135	00694122		1.2.12	3139131	00586496	0.88	-1.1690		yes	

**Table 4.2.6.3  
Sample Grade 4 Science Item Replacement Table**

# of Items Required per Blueprint	Strand	Concept	Form A - Operational Items							Form B - Operational Items						
			FT Form/Item #	AZID	PEID	PO	STIMULUS	P-VAL	RASCH	FT Form/Item #	AZID	PEID	PO	STIMULUS	P-VAL	RASCH
6	1	1	F2 # 37	3514479	880584	1.1.2		0.53	-0.0733	F2 # 37	3514479	880584	1.1.2		0.53	-0.0733
	1	1	F5 # 15	3514583	880792	1.1.3		0.53	-0.1026	F5 # 15	3514583	880792	1.1.3		0.53	-0.1026
	1	1	F2 # 2	3514444	880514	1.1.1		0.34	0.8236	F4 # 2	3514528	880682	1.1.1		0.42	0.4166
	1	1	F3 # 20	3514504	880634	1.1.1		0.41	0.4845	F5 # 24	3514592	880810	1.1.1		0.39	0.5803
	1	1	F1 # 8	3514408	880442	1.1.2		0.41	0.4858	F4 # 14	3514540	880706	1.1.2		0.49	0.1268
	1	1	F1 # 36	3514436	880498	1.1.3		0.42	0.4274	F2 # 14	3514456	880538	1.1.3		0.59	-0.3598



**Table 4.2.6.4**  
**Number of Reading and Math Items Selected by Committee**

Content Area	Grade	CRT Items Only	Core (Common Items, Drift Anchor Items, Anchor Items)		Total Selected	
Reading	3	42	30	71%	12	29%
	4	39	23	59%	16	41%
	5	39	27	69%	12	31%
	6	39	27	69%	12	31%
	7	39	32	82%	7	18%
	8	39	32	82%	7	18%
	HS	54	23	43%	31	57%
Reading Total		291	194	67%	97	33%
Math	3	57	50	88%	7	12%
	4	55	50	91%	5	9%
	5	53	50	94%	3	6%
	6	53	43	81%	10	19%
	7	53	48	91%	5	9%
	8	53	50	94%	3	6%
	HS	85	42	49%	43	51%
Math Total		409	333	81%	76	19%
Grand Total		700	527	75%	173	25%

**Table 4.2.6.5**  
**Number of Science Items Selected by Committee**

Grade	Common Core	Number Selected for Form A	Number Selected for Form B	Total Selected
4	22	32	32	86
8	27	31	31	89
HS	20	45	45	110
TOTAL	69	108	108	285

#### 4.2.7 AIMS NRT Item Selection

The *TerraNova* component of the 2005 and 2006 AIMS assessment was replicated in the 2008 AIMS administration. Specifically, the *TerraNova* items that yield the NRT scores for the 2008 AIMS assessment and the subset of *TerraNova* items that contributed to the CRT portion of the 2008 AIMS were identical to those on the 2007, 2006, and 2005 AIMS administration.

The *TerraNova* items embedded in the AIMS DPA assessment were selected to match the test blueprint and statistical criteria of *TerraNova* Form D Complete Battery. The differences in blueprint representation between the *TerraNova* component embedded in the AIMS DPA assessment and the *TerraNova* Form D Complete Battery are summarized below.

For *TerraNova* Reading, the difference in blueprint representation at the strand level exceeded 5% in only one strand in the grade 3 test. The difference in blueprint representation in all other strands in grades 3-8 did not exceed 3%. The difference between test characteristic curves in terms of expected percent of maximum raw score did not exceed 2%.

For *TerraNova* Language, difference in blueprint representation did not exceed 5% at the strand level with the exception of one strand in grade 4 and two strands in grade 8 where the differences were 6%, 6%, and 8%, respectively. The difference between test characteristic curves in terms of expected percent of maximum raw score did not exceed 2%.

For *TerraNova* Mathematics, the difference in blueprint representation at the strand level did not exceed 5% with the exception of one strand in grade 6 (7%), one strand in grade 7 (9%), and one strand in grade 8 (6%). The difference between test characteristic curves in terms of expected percent of maximum raw score did not exceed 2%.

The 2005 AIMS Technical Report contains more information about how the *TerraNova* items were selected in 2005. Copies of the 2005 AIMS Technical Report are available from Arizona Department of Education at the following web address:  
[www.azed.gov/standards/aims/Administering/AIMSTechReport2005.pdf](http://www.azed.gov/standards/aims/Administering/AIMSTechReport2005.pdf).

### **4.3 Customer Approvals**

Approvals from ADE staff were obtained during several phases of development: during selection of the CRT items, after second pages were created, at the completion of the QA reviews, and when pre-press test books were available. Each is described below.

#### **4.3.1 Item Selection Approval**

Since the item selection was conducted in AZ, item selection approvals were obtained on site at the end of each day. ADE staff members were given the Item Replacement Tables and the item cards. Content was the main focus of this review. Approval was verbal. The item selection tables were then sent electronically to the contract's Research Scientist for review. Psychometric evaluation of the test selection was the main focus of this review. Recommended changes were discussed with and approved by ADE.

#### **4.3.2 Second Pages Approvals**

At the second pages phase of development, items had been arranged into test book format. That is, they were no longer treated as individual items, but appeared in page layouts as they would appear in the final, printed test books. By this point, all content issues were resolved. That is, the focus of this approval was on format and presentation issues, rather than on content issues. Formal approval was given. Desired changes were communicated via email and Edit Request Form which included a description of the change, a justification, and space for the customer to grant or deny approval. Formal sign-off of second pages by ADE was achieved via a Request for ADE Approval (RAA) document.

#### **4.3.3 FTP Site**

A secure FTP site has been established for transfer of electronic documents (annotated test books, test book reviews, confirming copies, etc.) that need to be reviewed by ADE staff. After

careful review by ADE staff, corrections and edits are transmitted to CTB for inclusion/revision of the test documents.

#### **4.3.4 Materials Integration Review (MIR)**

The MIR review provides an opportunity for CTB staff members who have not previously seen the test materials to review them. This review also helps assure that test books, answer documents, and test administration directions all work in concert. A MIR summary lists any anomalies found.

#### **4.3.5 Quality Assurance (QA) Review (CTB)**

The QA review provides another opportunity for CTB staff members who have not previously seen the test materials to review them. This review focuses on detecting errors, inconsistencies, and cosmetic errors. A QA summary lists any problems found.

#### **4.3.6 ADE Quality Review**

After CTB has had an opportunity to review and edit test documents, ADE staff conduct a final review of “second pages” and “confirming copies” to determine if all edits have been accomplished properly.

#### **4.3.7 Final Sign-off**

A final, formal approval (blue line stage) is given as test books became available for printing. Items and field test items in each form. A copy of the test book is sent for ADE to review. A formal approval document (RAA) is also included to be signed and returned.

## Part 5: Test Administration

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Part 5 of the technical report describes administration procedures, including accommodations, security, and written procedures available to test administrators and school personnel. The following AERA/APA/NCME standards are addressed: 1.13, 3.3, 3.19, 3.20, 3.21, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 6.11, 6.15, 9.1, 10.1, and 10.2.

### 5.1 Accommodations

The same accommodations were made available for all of the Fall 2007 and Spring 2008 AIMS tests, including AIMS HS and AIMS DPA. In addition, in Grades 2 and 9, students were assessed in Reading, Language Arts, and Mathematics using *TerraNova*, a norm-referenced test published by CTB/McGraw-Hill. *TerraNova* was normed in 2000. The norming group included students with disabilities who received accommodations and students identified as English Learners. Therefore, all of the AIMS HS, AIMS DPA, and *TerraNova* assessments allow the same accommodations and include students who have received accommodations.

Students with disabilities who have an Individualized Education Program (IEP), or who have a 504 plan, may be considered for both universal and standard accommodations (described in section 5.1.1). Also, students identified as Limited English Proficient (LEP) and students who have been identified as Fluent English Proficient (FEP) for no more than two years may be considered for both universal and standard accommodations.

For the purposes of assessment, a Special Education student is eligible to receive services under the Individuals with Disabilities Education Improvement Act – 2004 (IDEA) and has an Individualized Education Program (IEP); and a 504 student is eligible under Section 504 of the Rehabilitation Act of 1973 and has a 504 Accommodation Plan.

An English Language Learner (ELL) is a student whose native language is other than English and is learning English as a second language. Limited English Proficient (LEP) is a term used to refer to a student whose English proficiency is still developing. Fluent English Proficient (FEP) is a term that is used to refer to a student that scores at the proficient level of the state mandated English language proficiency assessment. The Arizona English Language Learner Assessment (AZELLA), a language proficiency assessment, is given to determine a student's proficiency in English and respective instructional placement.

Detailed information about testing accommodations was included in the document, *Testing Accommodations: Guidelines for 2007-2008* on the ADE website. This document was posted at the following location: [www.azed.gov/standards/aims/Administering/TestingAccommodations2007-08.pdf](http://www.azed.gov/standards/aims/Administering/TestingAccommodations2007-08.pdf).

#### 5.1.1 Overview of Accommodations

Accommodations are specific practices and procedures that provide students with equitable access during instruction and assessment. Accommodations are made in order to provide a student equal access to learning and equal opportunity to demonstrate what is known. They are intended to reduce or even eliminate the effects of a student's disability. Accommodations can be changes in the presentation, response, setting, and timing/scheduling of educational activities. There should be a direct connection between a student's disability or need and the accommodation(s) provided to the student during educational activities, including assessment.

Students should receive the same accommodations for classroom instruction, classroom assessments, district assessment, and state assessments. No accommodations should be provided during assessments that are not also provided during instruction. However, not all accommodations appropriate for instruction are appropriate for use during a standardized state assessment. **The accommodations available to students while testing on *TerraNova*, AIMS DPA, or AIMS HS are limited to those listed in later sections of this document.**

Accommodations may not provide verbal or other clues or suggestions that hint at or give away the correct response to the student. Therefore, it is not permissible to simplify, paraphrase, explain, or eliminate any test item, prompt, or multiple-choice option. Additionally, accommodations provided for one student may not impede or impact other students in the testing room. It is the responsibility of the Testing Administrator to see that each student, who qualifies for testing accommodations, receives these accommodations while also ensuring that other students, who do not receive accommodations, are not affected.

### **5.1.2 Descriptions of Universal and Standard Accommodations**

Arizona offers two levels of accommodations to students participating in state assessments: universal accommodations and standard accommodations.

**Universal Accommodations** are provisions made for students that are in need of a minor change in testing practices or procedures in order to demonstrate their learning. Universal accommodations do not change what the student is responsible for learning or demonstrating. Students who are in need of universal accommodations do not necessarily have a disability that qualifies them for an IEP or a 504.

**Standard Accommodations** are provisions made in how a student accesses and demonstrates learning that does not substantially change the instructional level, the content, or the performance criteria. Students with disabilities who have an Individualized Education Program (IEP), or who have a 504 plan, may be considered for standard accommodations. Also, English Language Learners may be considered for standard accommodations.

During the assessment, all accommodations for assessment identified in a student's IEP must be made available. However, students may choose not to use the accommodation(s).

### **5.1.3 Determining if a Student Needs a Testing Accommodation**

When students need accommodations in how they learn or demonstrate learning, they are likely to need accommodations in how they are assessed. Conversely, if students do not need accommodations in how they learn or demonstrate learning, they will not need accommodations in how they are assessed. Therefore, no accommodation can be put in place for assessment that is not also used for instruction.

To determine if a student will need testing accommodations to participate in state assessments, the following questions were asked:

- Does the student use accommodations during daily instruction?
- If the student uses accommodations during daily instructions, does the student need accommodations in order to participate in the state assessment?
- If so, which testing accommodations are necessary and appropriate for the student?

It is important to annually re-consider the types of accommodations used for students, particularly as they gain more skills. Table 5.1.1 lists the specific testing accommodations available to students while participating in a state assessment.

**Figure 5.1.1**  
**Fall 2007 and Spring 2008 AIMS Standard Accommodations**

Universal Accommodations	All	ELL	504	Special Education
a separate location or study carrol	X	X	X	X
preferential seating	X	X	X	X
special lighting	X	X	X	X
student wears noise buffers (after directions)	X	X	X	X
special furniture or pencil	X	X	X	X
familiar test administrator	X	X	X	X
repeat directions	X	X	X	X
clarify directions	X	X	X	X
color overlay	X	X	X	X

Standard Accommodations	Injured	ELL	504	Special Education
more breaks and/or several shorten sessions		X	X	X
small group administration or one-on-one testing		X	X	X
simplify language in directions in English		X	X	X
read aloud in English the writing prompt, mathematics test items, or science test items as needed upon student request		X	X	X
provide a word-for-word published, paper translation dictionary		X		
exact oral translation of directions as needed upon student request		X		
test at a different time of day			X	X
read or sign directions			X	X
exact sign language interpretation of the writing prompt, mathematics test items, or science test items			X	X
magnification device			X	X
amplification equipment			X	X
place marker used			X	X
large print or Braille edition of test			X	X
for a student who is blind, use of an abacus for mathematics test items			X	X
for a student who is blind, use of an electronic dictionary and thesaurus with grammar check, spell check, encyclopedia, translation, and internet access turned off			X	X
for a student who is blind, Braille writers*			X	X
write answers directly into test booklet*	X		X	X
record or dictate multiple choice responses to a scribe*	X		X	X
use assistive technology with spell check, grammar check, and predict ahead functions turned off*	X		X	X

\* For these accommodations, the student's responses must be transferred to the student's answer document as directed in the corresponding *Test Administration Directions* manual

#### 5.1.4 Reporting Results of Assessments Taken with Accommodations

Students who receive **standard** or **alternate** testing accommodations while participating in *TerraNova*, AIMS DPA, or AIMS HS must have their accommodations appropriately identified on their answer document as directed in the corresponding Test Administration Directions. It is not necessary to identify students who received **universal** accommodations while participating in *TerraNova*, AIMS DPA, or AIMS HS.

The use of **standard** accommodations results in scores that are considered valid for comparison and accountability purposes. The results for students who participated in assessments with **standard** accommodations will be included in aggregate results at the school, district, and state level on the paper reports provided by the testing contractor. Students who received **standard** accommodations on AIMS DPA and AIMS HS will count as having tested for federal accountability (AYP) purposes.

## 5.2 Test Security

All AIMS tests were administered under secure testing conditions. Figure 5.2.1 includes the security agreement signed by personnel involved with testing administration.

## 5.3 Test Administration

In order to ensure standardized testing administration for all students, a Test Coordinator's manual was made available to all test coordinators for the Fall 2007 and Spring 2008 administrations. The manual included the following topics:

- Schedule of Important Dates
- District Test Coordinator's Responsibilities
- Scheduling Test Administration
- Students to be Tested
- Student Identification Information
- Test Materials
- Receiving Test Materials
- Inventorying Test Materials
- Procedures During Test Administration
- Procedures Following Test Administration
- Returning Materials to CTB/McGraw-Hill
- Test Security

Test Administration Directions were made available to all test administrators for the Fall 2007 and Spring 2008 assessments. They included the following:

- Test Administrator Responsibilities
- Arrangements Prior to Test Administration
- Test Materials and Testing Schedule
- Test Administration Guidelines
- Student Identification Information
- Detailed Scripts for Administration of Each Part of Each Test
- Procedures Following Test Administration

For specific information related to test administration, refer to the Test Coordinator's Manual and/or the Test Administration Directions.

Pre-test workshops were presented to all test coordinators across the state. Both ADE and CTB participated in these workshops. All districts test coordinators are required to attend a pre-test workshop and makeup workshops are provided if someone misses a required workshop. Attendance is checked to verify attendance by at least the district test coordinator.

**Figure 5.2.1**  
**2008 Spring AIMS Test security agreement**

**Arizona's Instrument to Measure Standards**  
**AIMS/TerraNova Test Security Agreement**  
**Spring 2008**

The user (school district, charter operator, and/or school professional staff) acknowledges that AIMS and *TerraNova* are secure tests and agrees to the following conditions of use to ensure the security of the tests:

1.
  - a) The user will take all necessary precautions to safeguard all test materials by limiting access to persons with the school district or agency with a responsible, professional interest in the test's security.
  - b) The names of all persons having access to the materials will be kept on file by the designated test coordinator.
  - c) All persons having access to the materials (other than students to whom the test is administered) will sign this test security agreement, which will be kept on file.
    - i. Building administrators will maintain signed agreements of building staff.
    - ii. Superintendent/charter representative will maintain signed agreements of building administrators.
    - iii. Superintendent/charter representative will sign for district and submit security agreement to ADE.
    - iv. ADE will maintain signed agreements of superintendents/charter representatives.
2.
  - a) The user will keep the test materials under lock and key, except on actual testing dates, limiting access to those responsible for their security.
  - b) Secure test materials, including test books and directions, will be delivered to examiners no sooner than the date of testing, unless logistics dictate an earlier delivery date.
  - c) Test materials will be kept secure until they are actually distributed to students.
  - d) In no case will students be permitted to remove test material from the room where testing takes place except under supervision of staff (students completing test).
3.
  - a) The user will not examine the test to determine the content beyond the requirements to administer the test.
  - b) The user will not disclose or allow to be disclosed the content of the test. The user will not discuss any test item at any time.
4. Upon completion of testing, the user will return all test materials to the designated test coordinator of the school/district.
5. The district superintendent or charter representative will develop, distribute, and enforce disciplinary procedures for the violation of test security by district or agency staff.
6. The user will follow the guidelines approved by the State Board of Education in January 2003 in the document *Test Preparation and Administration Practices*.
7. The user will follow all instructions in the Test Coordinator's Manual and the Test Administration Directions which includes reading the directions to students exactly as scripted in the Test Administration Directions.

By signing my name to this document, I am assuring the Arizona Department of Education that I will abide by the above conditions and that anyone I supervise, who will have access to the AIMS or *TerraNova* tests, will also sign an AIMS/*TerraNova* Test Security Agreement.

SIGNED BY: \_\_\_\_\_

PRINTED NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

DISTRICT NAME/  
CHARTER OPERATOR: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_

FAX Test Security Agreement with Superintendent Signature to: 602-542-5467	DUE: February 1, 2008
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## **Part 6: Data for Operational Analysis**

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Part 6 of the technical report describes the data that were used for calibration and scaling of the 2008 Spring AIMS. This part also presents classical test statistics and item analysis statistics for each content area and grade level (CRT and NRT) computed with the data used for calibration and scaling. Addressed in this part of the technical report are the following AERA/APA/NCME standards: 1.5, 1.13, 2.4, 2.8, 3.18, 6.5, and 7.1. (See Appendix A for this information for the 2007 Fall AIMS administration.)

### **6.1 Data**

Arizona had two test windows for operational testing in spring 2008. The high school Reading and Writing tests were administered between February 26 and March 5. High school Math and Science and grades 3-8 Reading, Writing, Math, and Science were administered between April 7 and April 18. Live calibration with census data was used for operational analysis of Reading and Mathematics tests; pre-equated scoring tables were used for analysis of Writing tests. (See Appendix C for details on the development of these pre-equated scoring tables.)

### **6.2 Ensuring Valid Records in Calibration Sample**

In order to ensure valid calibration results, several data cleaning steps occurred upon receipt of raw data from the scanning and scoring processes. These steps allowed for calibration to be conducted on valid student responses at the targeted grade level. Records for students taking all forms of the tests were included.

The cleaning process removed the following records from the calibration datasets for each content area and grade level:

- Records with invalid tests noted by a special invalidation code obtained from ADE and marked on the answer document;
- Records with non-valid attempts noted by less than one response in any of the test sessions;
- Records for Bureau of Indian Affairs schools, juvenile corrections centers, state hospital schools, private schools, and home schooled students;
- Records where a student indicated they had already met expectations (high school tests only);
- Records for students in cohorts other than 10 (high school tests only);
- Records which indicated the student took a test other than their grade level test;
- Duplicate records (score sheets were double scanned or students taking the test more than one time).

More details on calibration are included in Part 7 Calibration and Scaling.

### 6.3 Descriptive Statistics by Test

Table 6.3.1 presents descriptive statistics by test (content area and grade level) which are computed with the calibration samples in Reading, Mathematics, Science, and census data in writing. In the table it shows the number of students (N), the maximum obtained raw score (Max RS), the raw score mean (RS M), the raw score standard deviation (RS SD), the average p-value (P-value M), the average item to total correlation ( $r$  M), and Cronbach's alpha as a measure of internal consistency. The item to total correlation is computed as a point biserial correlation for dichotomous items and as a Pearson product-moment correlation for polytomous items. The point biserial correlation reported is the point biserial of the item and sum of other items. The Pearson product-moment correlation reported is the Pearson product-moment correlation of the item and sum of other items.

Note that internal consistency is not reported for the Writing tests. This is because, although Cronbach's alpha could be used as a measure of internal consistency for the 2008 Spring AIMS CRT Writing tests, this measure would likely overestimate the coefficient because the trait scores are based on the same response. Furthermore, split-half reliability for a single prompt test may not be a valid estimate of reliability for a single prompt test. Therefore, measures of internal consistency for the AIMS Writing tests are not reported.

**Table 6.3.1**  
**2008 Spring AIMS Classical Test Analysis Statistics**

Test	Form	N	Max RS Obtained	RS M	RS SD	P-value M	r M	Internal Consistency
CRT								
Math								
	03	83179	72	50.74	13.12	0.70	0.40	0.93
	04	81559	70	51.23	12.77	0.73	0.40	0.94
	05	81224	68	47.31	13.79	0.70	0.44	0.94
	06	81555	68	47.03	13.72	0.69	0.43	0.94
	07	80800	68	47.47	13.25	0.70	0.42	0.94
	08	80496	66	43.57	12.93	0.66	0.41	0.93
	HS	73953	85	56.66	16.76	0.67	0.42	0.95
Reading								
	03	83182	54	36.32	11.05	0.67	0.43	0.93
	04	81580	54	38.62	11.01	0.72	0.45	0.93
	05	81265	54	36.75	10.83	0.68	0.41	0.92
	06	81583	54	36.77	10.47	0.68	0.41	0.92
	07	80820	54	36.58	10.62	0.68	0.40	0.92
	08	80525	54	35.70	10.54	0.66	0.39	0.91
	HS	75462	54	35.10	10.39	0.65	0.39	0.91
Writing								
	03	81248	36	20.24	5.08	0.55	0.87	
	04	80432	36	18.78	4.25	0.51	0.84	
	05	80446	36	20.63	4.19	0.56	0.84	
	06	80799	36	19.02	4.46	0.52	0.83	
	07	80245	36	20.48	4.36	0.56	0.82	
	08	80332	36	21.89	4.47	0.60	0.83	
	HS A	72870	72	44.01	8.26	0.60	0.89	
	HS T	1977	72	40.34	10.38	0.53	0.91	
Science								
	04 A	39605	54	33.91	9.46	0.63	0.35	0.89
	04 B	38975	54	33.63	9.51	0.62	0.35	0.89
	08 A	39219	58	35.61	10.84	0.61	0.37	0.91
	08 B	38733	58	35.66	10.83	0.61	0.37	0.91
	HS A	22677	64	35.33	11.49	0.55	0.35	0.91
	HS B	22163	64	35.28	11.80	0.55	0.36	0.91

Note. CRT= Criterion-referenced test, NRT= Norm-referenced test, HS-A= High School Prompt A, HS-T= High School Prompt T. High school writing tests have a maximum raw score of 72 because 6 traits were scored by two raters each, treated in analysis as 12 6-point items. The statistics presented in this table are based on a calibration sample, which was near census for this administration. Point-biserial correlation was used to compute item-total correlation for all tests but writing. Pearson product-moment correlation was used to compute item-total correlation for the writing tests.

(table continues)

**Table 6.3.1 (continued)**  
**2008 Spring AIMS Classical Test Analysis Statistics**

Test	Form	N	Max RS				Internal Consistency	
			Obtained	RS M	RS SD	P-value M		<i>r</i> M
NRT								
Math								
	03	83179	25	18.62	4.34	0.74	0.35	0.81
	04	81559	25	18.33	4.68	0.73	0.37	0.83
	05	81224	25	17.43	5.18	0.70	0.40	0.85
	06	81555	25	17.18	5.47	0.69	0.42	0.87
	07	80800	25	15.06	5.40	0.60	0.40	0.85
	08	80496	25	15.73	5.09	0.63	0.37	0.83
Reading								
	03	83182	25	16.22	5.02	0.65	0.37	0.83
	04	81580	25	17.92	5.19	0.72	0.42	0.86
	05	81265	25	16.85	4.94	0.67	0.37	0.83
	06	81583	25	17.44	4.81	0.70	0.37	0.83
	07	80820	25	16.06	5.65	0.64	0.42	0.87
	08	80525	25	17.59	4.77	0.70	0.37	0.83
Language								
	03	83182	20	12.83	3.95	0.64	0.36	0.79
	04	81580	20	13.38	4.01	0.67	0.36	0.79
	05	81265	20	12.67	4.65	0.63	0.42	0.84
	06	81583	20	12.81	4.45	0.64	0.40	0.82
	07	80820	20	13.59	4.22	0.68	0.38	0.81
	08	80525	20	12.92	3.99	0.65	0.36	0.79

Note. CRT= Criterion-referenced test, NRT= Norm-referenced test, HS-A= High School Prompt A, HS-T= High School Prompt T. High school writing tests have a maximum raw score of 72 because 6 traits were scored by two raters each, treated in analysis as 12 6-point items. The statistics presented in this table are based on a calibration sample, which was near census for this administration. Point-biserial correlation was used to compute item-total correlation for all tests but writing. Pearson product-moment correlation was used to compute item-total correlation for the writing tests.

#### 6.4 Classical Item Analysis

Classical item analysis was conducted for all grades and content areas. Tables 6.4.1—6.4.28 presents item statistics for the CRT tests. Note that operational CRT items are reported in sequence without embedded field test and non-dual purpose NRT/CRT items. Tables 6.4.29—6.4.46 presents item statistics for the NRT tests. The tables show the number of students (N), the item difficulty (P-Value), point biserial correlation ( $r_{pb}$ ) and biserial correlation ( $r_{bi}$ ) for dichotomous items, item to total Pearson product-moment correlation ( $r$ ) for polytomous items, percentage of students who omitted the item (% Omit), and the percentage of students responding to and point biserial for the key and each distractor. The point biserial correlation ( $r_{bi}$ ) reported is the point biserial correlation of the item and sum of other items. The biserial correlation ( $r_{pb}$ ) reported is the biserial correlation of the item and sum of other items. The item to total Pearson product-moment correlation reported is the Pearson product moment correlation of the item and sum of other items.

**Table 6.4.1**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics CRT Grade 3**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	83179	0.73	0.28	0.38	0.13	73.26	2.93	-0.16	2.29	-0.18	21.39	-0.17
2	83179	0.78	0.47	0.65	0.15	77.52	7.57	-0.19	6.05	-0.26	8.68	-0.30
3	83179	0.63	0.52	0.66	0.42	62.82	14.94	-0.38	14.62	-0.11	7.19	-0.28
4	83179	0.87	0.42	0.68	0.68	87.27	4.53	-0.24	3.72	-0.23	3.79	-0.23
5	83179	0.77	0.51	0.71	0.17	76.79	11.22	-0.28	7.08	-0.28	4.37	-0.24
6	83179	0.99	0.17	0.58	0.14	98.73	0.29	-0.10	0.38	-0.10	0.45	-0.09
7	83179	0.70	0.38	0.50	0.38	70.07	9.26	-0.25	12.51	-0.21	7.74	-0.11
8	83179	0.71	0.57	0.76	0.75	70.64	10.79	-0.30	9.70	-0.29	8.10	-0.27
9	83179	0.75	0.51	0.70	0.34	75.09	7.74	-0.29	12.54	-0.33	4.27	-0.17
10	83179	0.76	0.44	0.61	0.49	75.51	15.88	-0.36	6.82	-0.16	1.27	-0.14
11	83179	0.78	0.38	0.53	0.38	78.04	1.47	-0.19	14.65	-0.17	5.45	-0.31
12	83179	0.47	0.34	0.42	0.72	46.60	23.49	-0.07	14.95	-0.24	14.20	-0.14
13	83179	0.82	0.31	0.45	0.59	81.65	2.13	-0.14	12.21	-0.19	3.39	-0.18
14	83179	0.96	0.26	0.58	0.41	95.74	1.61	-0.17	1.22	-0.14	0.95	-0.13
15	83179	0.73	0.49	0.65	1.05	73.04	11.51	-0.32	10.66	-0.27	3.72	-0.15
16	83179	0.59	0.46	0.58	0.26	59.17	2.31	-0.08	7.27	-0.11	30.89	-0.39
17	83179	0.59	0.61	0.78	0.34	59.14	27.03	-0.54	8.72	-0.22	4.72	0.02
18	83179	0.77	0.56	0.78	0.35	77.34	7.61	-0.25	8.23	-0.34	6.46	-0.30
19	83179	0.69	0.27	0.35	0.32	69.38	14.89	-0.14	7.55	-0.09	4.58	-0.16
20	83179	0.62	0.46	0.58	0.29	61.86	15.56	-0.21	9.30	-0.22	12.98	-0.24
21	83179	0.65	0.52	0.67	0.44	65.40	16.10	-0.23	8.65	-0.30	9.39	-0.26
22	83179	0.76	0.54	0.74	0.11	75.94	1.74	-0.20	19.01	-0.41	3.19	-0.25
23	83179	0.78	0.28	0.39	0.29	78.29	19.10	-0.21	1.22	-0.15	1.08	-0.15
24	83179	0.94	0.35	0.70	0.67	94.11	1.43	-0.19	1.38	-0.20	2.41	-0.22
25	83179	0.83	0.27	0.40	0.15	83.21	0.93	-0.17	13.81	-0.16	1.89	-0.21
26	83179	0.65	0.21	0.27	0.27	65.42	8.90	-0.19	13.64	-0.07	11.73	-0.06
27	83179	0.57	0.35	0.45	0.53	57.43	14.08	-0.10	15.49	-0.20	12.47	-0.19
28	83179	0.83	0.30	0.44	0.38	82.79	9.99	-0.19	4.41	-0.16	2.41	-0.13
29	83179	0.39	0.30	0.39	0.31	39.21	25.90	0.09	32.89	-0.36	1.69	-0.12
30	83179	0.85	0.38	0.58	0.25	84.70	5.91	-0.18	2.05	-0.20	7.03	-0.25
31	83179	0.64	0.46	0.60	0.50	64.04	12.89	-0.21	9.27	-0.18	13.28	-0.29
32	83179	0.86	0.44	0.69	0.25	86.38	5.73	-0.26	3.32	-0.24	4.31	-0.23
33	83179	0.93	0.34	0.64	1.12	92.73	3.15	-0.20	1.60	-0.21	1.39	-0.20
34	83179	0.51	0.39	0.49	0.96	50.87	34.58	-0.15	9.31	-0.37	4.28	-0.08
35	83179	0.77	0.37	0.51	0.30	76.76	6.09	-0.12	3.33	-0.22	13.52	-0.26
36	83179	0.56	0.53	0.66	0.37	55.63	12.48	-0.23	28.40	-0.34	3.11	-0.16
37	83179	0.77	0.44	0.60	0.89	77.12	6.01	-0.19	4.90	-0.24	11.08	-0.27
38	83179	0.46	0.19	0.24	0.45	45.69	5.87	-0.27	9.30	-0.23	38.68	0.08
39	83179	0.47	0.36	0.45	0.20	46.60	20.83	-0.15	14.45	-0.11	17.87	-0.20
40	83179	0.46	0.44	0.55	0.27	45.82	28.28	-0.23	11.89	-0.10	13.74	-0.23

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.1 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics CRT Grade 3**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	83179	0.87	0.48	0.75	0.34	86.55	4.65	-0.29	4.45	-0.26	4.00	-0.24
42	83179	0.78	0.36	0.50	0.21	78.44	6.12	-0.22	10.78	-0.17	4.44	-0.19
43	83179	0.84	0.31	0.47	0.35	84.34	7.85	-0.17	4.46	-0.16	2.98	-0.18
44	83179	0.90	0.40	0.68	0.07	89.51	3.19	-0.26	5.57	-0.24	1.65	-0.17
45	83179	0.76	0.24	0.32	0.09	75.76	1.89	-0.17	13.70	-0.20	8.56	-0.04
46	83179	0.53	0.36	0.45	0.13	52.62	18.34	-0.09	12.15	-0.21	16.74	-0.21
47	83179	0.66	0.47	0.61	0.45	65.86	10.54	-0.25	12.47	-0.16	10.67	-0.29
48	83179	0.55	0.49	0.62	0.43	54.74	12.35	-0.34	14.40	-0.19	18.07	-0.17
49	83179	0.50	0.47	0.59	0.22	49.55	14.27	-0.23	13.09	-0.22	22.85	-0.19
50	83179	0.75	0.39	0.54	1.08	75.05	4.60	-0.24	17.38	-0.25	1.88	-0.17
51	83179	0.67	0.29	0.38	0.18	66.65	15.24	-0.14	10.63	-0.15	7.02	-0.14
52	83179	0.88	0.17	0.28	0.21	87.55	2.13	-0.12	7.33	-0.08	2.72	-0.10
53	83179	0.64	0.42	0.54	1.27	64.05	16.72	-0.14	11.25	-0.27	6.70	-0.24
54	83179	0.92	0.42	0.77	0.23	92.15	3.43	-0.26	3.02	-0.27	1.01	-0.14
55	83179	0.67	0.44	0.57	0.25	67.16	8.42	-0.18	8.56	-0.31	15.57	-0.20
56	83179	0.84	0.36	0.54	1.56	83.87	4.38	-0.23	6.72	-0.21	3.46	-0.17
57	83179	0.57	0.41	0.52	0.50	57.02	13.13	-0.19	22.45	-0.19	6.89	-0.23
58	83179	0.82	0.44	0.64	0.61	82.05	5.14	-0.19	6.75	-0.30	5.44	-0.21
59	83179	0.78	0.44	0.61	0.83	77.84	12.05	-0.26	6.79	-0.24	2.48	-0.20
60	83179	0.61	0.48	0.60	1.14	61.23	8.12	-0.30	18.10	-0.23	11.42	-0.17
61	83179	0.62	0.54	0.69	0.52	62.23	16.83	-0.19	8.02	-0.21	12.38	-0.40
62	83179	0.89	0.39	0.65	0.78	88.88	2.18	-0.21	4.26	-0.21	3.88	-0.26
63	83179	0.78	0.44	0.62	0.13	78.25	7.53	-0.25	7.43	-0.26	6.65	-0.18
64	83179	0.47	0.34	0.43	0.23	47.47	12.67	-0.20	6.63	-0.19	32.88	-0.12
65	83179	0.42	0.38	0.48	0.54	42.41	16.44	-0.24	9.13	-0.32	31.47	-0.01
66	83179	0.95	0.29	0.62	0.24	95.22	1.18	-0.17	1.39	-0.18	1.97	-0.15
67	83179	0.76	0.54	0.75	2.21	75.83	11.23	-0.38	2.25	-0.22	8.47	-0.26
68	83179	0.57	0.49	0.61	3.72	57.22	18.53	-0.22	9.47	-0.23	11.05	-0.24
69	83179	0.67	0.38	0.49	0.21	67.06	8.66	-0.15	15.70	-0.26	8.24	-0.15
70	83179	0.62	0.53	0.67	2.07	61.94	9.87	-0.26	13.81	-0.20	12.29	-0.31
71	83179	0.59	0.26	0.33	0.15	58.96	17.13	0.09	4.49	-0.12	19.26	-0.34
72	83179	0.49	0.21	0.27	0.33	49.09	40.48	0.01	5.26	-0.21	4.82	-0.29

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.2**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics CRT Grade 4**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	81559	0.87	0.43	0.69	0.03	87.46	2.39	-0.20	7.95	-0.26	2.18	-0.27	
2	81559	0.73	0.51	0.68	0.02	72.87	21.91	-0.38	3.27	-0.24	1.91	-0.19	
3	81559	0.89	0.25	0.42	0.04	88.79	2.62	-0.06	3.26	-0.22	5.30	-0.14	
4	81559	0.79	0.50	0.70	0.11	78.66	7.50	-0.25	5.74	-0.23	7.97	-0.31	
5	81559	0.71	0.32	0.42	0.03	70.67	15.52	-0.27	7.44	-0.06	6.32	-0.13	
6	81559	0.64	0.33	0.42	0.10	63.80	24.20	-0.17	5.93	-0.17	5.96	-0.20	
7	81559	0.89	0.26	0.42	0.04	88.96	5.55	-0.13	3.15	-0.15	2.29	-0.17	
8	81559	0.65	0.40	0.51	0.04	64.88	6.95	-0.22	14.98	-0.17	13.14	-0.21	
9	81559	0.82	0.49	0.72	0.07	82.44	7.04	-0.26	5.46	-0.26	4.97	-0.27	
10	81559	0.70	0.45	0.59	0.07	70.36	6.50	-0.19	7.65	-0.17	15.41	-0.31	
11	81559	0.83	0.44	0.65	0.03	83.20	8.75	-0.25	5.06	-0.24	2.95	-0.24	
12	81559	0.61	0.44	0.56	0.07	61.46	21.22	-0.27	7.28	-0.20	9.94	-0.17	
13	81559	0.86	0.39	0.61	0.06	85.96	1.49	-0.21	3.50	-0.26	8.97	-0.21	
14	81559	0.65	0.51	0.66	0.08	64.79	5.14	-0.21	5.66	-0.22	24.31	-0.34	
15	81559	0.81	0.47	0.69	0.06	81.07	8.46	-0.31	6.32	-0.22	4.09	-0.23	
16	81559	0.85	0.47	0.71	0.09	84.56	5.86	-0.26	4.57	-0.29	4.92	-0.22	
17	81559	0.71	0.38	0.50	0.04	71.39	7.33	-0.22	17.90	-0.18	3.34	-0.24	
18	81559	0.83	0.57	0.85	0.06	83.18	5.30	-0.32	5.38	-0.29	6.06	-0.32	
19	81559	0.63	0.38	0.48	0.06	63.44	29.85	-0.27	4.29	-0.16	2.34	-0.16	
20	81559	0.81	0.23	0.34	0.06	81.04	1.36	-0.17	16.32	-0.15	1.19	-0.14	
21	81559	0.85	0.44	0.68	0.06	84.71	6.84	-0.21	3.79	-0.26	4.57	-0.26	
22	81559	0.60	0.41	0.52	0.07	60.35	8.72	-0.18	15.89	-0.21	14.94	-0.20	
23	81559	0.57	0.32	0.41	0.16	57.15	4.27	-0.23	8.80	-0.20	29.61	-0.12	
24	81559	0.70	0.57	0.76	0.13	70.45	17.04	-0.35	7.39	-0.32	4.98	-0.21	
25	81559	0.40	0.33	0.42	0.34	39.61	46.51	-0.09	6.05	-0.21	7.47	-0.24	
26	81559	0.85	0.34	0.51	0.03	84.80	4.58	-0.19	7.07	-0.18	3.52	-0.18	
27	81559	0.68	0.18	0.23	0.03	68.46	1.58	-0.12	1.27	-0.14	28.64	-0.11	
28	81559	0.76	0.52	0.71	0.03	76.13	11.26	-0.32	8.48	-0.25	4.08	-0.25	
29	81559	0.59	0.53	0.67	0.06	59.48	14.43	-0.11	14.57	-0.38	11.44	-0.27	
30	81559	0.88	0.45	0.74	0.15	88.26	3.66	-0.24	4.81	-0.28	3.10	-0.22	
31	81559	0.71	0.26	0.35	0.02	71.28	8.69	-0.07	10.79	-0.15	9.20	-0.19	
32	81559	0.77	0.44	0.61	0.08	76.77	2.93	-0.25	8.25	-0.23	11.94	-0.25	
33	81559	0.78	0.52	0.72	0.04	78.31	13.96	-0.39	3.57	-0.24	4.09	-0.15	
34	81559	0.79	0.45	0.64	0.09	78.98	3.91	-0.24	11.79	-0.26	5.21	-0.23	
35	81559	0.87	0.27	0.43	0.04	87.22	3.64	-0.15	5.89	-0.16	3.19	-0.13	
36	81559	0.94	0.33	0.67	0.09	94.16	1.69	-0.20	2.75	-0.19	1.29	-0.18	
37	81559	0.85	0.46	0.71	0.03	84.83	5.03	-0.28	4.76	-0.26	5.34	-0.22	
38	81559	0.71	0.38	0.51	0.07	71.03	2.92	-0.22	4.53	-0.25	21.42	-0.20	
39	81559	0.89	0.41	0.69	0.06	89.11	2.65	-0.21	3.46	-0.23	4.70	-0.24	
40	81559	0.60	0.32	0.41	0.05	59.74	7.28	-0.24	4.96	-0.20	27.95	-0.12	

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.2 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics CRT Grade 4**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	81559	0.65	0.39	0.50	0.08	64.63	10.32	-0.17	11.08	-0.22	13.87	-0.18
42	81559	0.82	0.35	0.51	0.08	82.12	4.93	-0.27	10.12	-0.14	2.72	-0.19
43	81559	0.44	0.24	0.31	0.06	43.82	20.73	-0.18	18.12	-0.08	17.26	-0.04
44	81559	0.67	0.47	0.61	0.14	67.16	5.19	-0.20	14.60	-0.14	12.88	-0.37
45	81559	0.63	0.50	0.64	0.07	62.77	24.18	-0.39	7.47	-0.14	5.49	-0.16
46	81559	0.73	0.45	0.60	0.07	72.88	16.55	-0.24	6.86	-0.24	3.62	-0.26
47	81559	0.82	0.47	0.68	0.15	81.53	6.60	-0.20	6.78	-0.32	4.93	-0.24
48	81559	0.64	0.54	0.70	0.25	63.97	11.97	-0.27	10.84	-0.22	12.97	-0.30
49	81559	0.82	0.23	0.34	0.01	82.40	5.25	-0.11	6.75	-0.13	5.57	-0.14
50	81559	0.75	0.28	0.38	0.02	74.65	0.91	-0.16	1.56	-0.16	22.85	-0.20
51	81559	0.74	0.39	0.53	0.04	73.72	6.31	-0.25	9.29	-0.31	10.61	-0.07
52	81559	0.77	0.61	0.84	0.07	77.45	12.79	-0.42	5.08	-0.26	4.56	-0.26
53	81559	0.68	0.42	0.55	0.09	67.51	9.26	-0.17	9.28	-0.09	13.82	-0.35
54	81559	0.56	0.28	0.36	0.04	55.67	25.91	-0.15	9.10	-0.15	9.25	-0.12
55	81559	0.88	0.38	0.62	0.04	87.68	2.08	-0.23	7.56	-0.23	2.62	-0.20
56	81559	0.75	0.51	0.70	0.07	75.33	12.42	-0.34	6.26	-0.25	5.89	-0.20
57	81559	0.76	0.54	0.75	0.04	75.75	10.03	-0.35	6.48	-0.30	7.67	-0.20
58	81559	0.63	0.36	0.46	0.02	62.53	23.85	-0.31	10.95	-0.04	2.62	-0.17
59	81559	0.51	0.33	0.42	0.14	50.57	17.60	-0.18	16.30	-0.14	15.36	-0.12
60	81559	0.92	0.31	0.57	0.05	91.75	2.97	-0.20	2.93	-0.16	2.24	-0.16
61	81559	0.57	0.48	0.61	0.05	56.77	11.71	-0.23	21.88	-0.20	9.57	-0.29
62	81559	0.80	0.36	0.52	0.04	80.12	13.30	-0.21	4.09	-0.22	2.43	-0.20
63	81559	0.58	0.40	0.51	0.07	58.43	13.24	-0.13	19.03	-0.22	9.21	-0.24
64	81559	0.48	0.29	0.36	0.07	47.57	24.17	-0.15	19.23	-0.05	8.92	-0.19
65	81559	0.61	0.50	0.64	0.06	61.09	20.46	-0.21	8.70	-0.26	9.65	-0.29
66	81559	0.71	0.53	0.70	0.09	71.14	10.79	-0.25	10.63	-0.27	7.33	-0.29
67	81559	0.83	0.41	0.60	0.09	82.68	3.85	-0.24	7.79	-0.19	5.55	-0.24
68	81559	0.70	0.41	0.53	0.18	69.73	12.06	-0.20	10.16	-0.21	7.81	-0.22
69	81559	0.91	0.36	0.65	0.16	91.49	2.51	-0.21	3.29	-0.20	2.51	-0.21
70	81559	0.80	0.32	0.45	0.43	79.80	3.67	-0.28	12.64	-0.11	3.46	-0.18

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.



**Table 6.4.3**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics CRT Grade 5**

Item	N	P-Value	$r_{pb}$	$r_{bi}$	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%	$r_{pb}$	%	$r_{pb}$	%	$r_{pb}$	%	$r_{pb}$
1	81224	0.69	0.33	0.43	0.03	69.00	14.74	-0.25	2.40	-0.19	13.83	-0.09	
2	81224	0.63	0.49	0.63	0.04	62.79	4.85	-0.21	25.61	-0.31	6.70	-0.23	
3	81224	0.61	0.33	0.42	0.04	61.06	14.95	-0.14	9.65	-0.23	14.30	-0.13	
4	81224	0.85	0.41	0.63	0.01	85.21	4.71	-0.25	5.23	-0.22	4.84	-0.20	
5	81224	0.63	0.54	0.68	0.08	62.93	10.64	-0.23	11.53	-0.21	14.81	-0.34	
6	81224	0.87	0.47	0.73	0.05	86.56	4.72	-0.27	4.53	-0.28	4.12	-0.21	
7	81224	0.58	0.36	0.45	0.02	58.02	4.79	-0.16	33.28	-0.23	3.87	-0.17	
8	81224	0.71	0.48	0.64	0.07	71.26	9.32	-0.29	7.42	-0.23	11.91	-0.22	
9	81224	0.70	0.35	0.47	0.02	70.00	2.96	-0.25	13.91	-0.22	13.11	-0.13	
10	81224	0.77	0.40	0.55	0.06	76.85	9.96	-0.19	8.08	-0.17	5.04	-0.29	
11	81224	0.80	0.40	0.57	0.02	80.10	8.95	-0.17	6.25	-0.23	4.67	-0.26	
12	81224	0.66	0.42	0.54	0.06	65.62	13.96	-0.17	9.64	-0.24	10.70	-0.23	
13	81224	0.71	0.50	0.67	0.03	71.28	18.09	-0.34	7.09	-0.20	3.50	-0.24	
14	81224	0.67	0.57	0.74	0.07	66.77	10.47	-0.31	14.40	-0.35	8.28	-0.18	
15	81224	0.93	0.41	0.77	0.04	92.75	2.91	-0.27	2.19	-0.23	2.10	-0.19	
16	81224	0.82	0.33	0.48	0.04	81.63	1.71	-0.19	2.89	-0.20	13.71	-0.20	
17	81224	0.31	0.17	0.23	0.15	30.74	14.32	-0.09	34.51	-0.04	20.28	-0.07	
18	81224	0.69	0.36	0.47	0.05	68.85	14.51	-0.21	8.98	-0.20	7.60	-0.13	
19	81224	0.81	0.56	0.80	0.01	80.84	9.81	-0.39	4.46	-0.27	4.87	-0.22	
20	81224	0.76	0.40	0.55	0.05	76.00	11.40	-0.20	7.84	-0.24	4.69	-0.21	
21	81224	0.80	0.37	0.53	0.04	79.79	10.56	-0.20	6.54	-0.22	3.04	-0.20	
22	81224	0.72	0.58	0.77	0.02	72.30	7.67	-0.30	3.89	-0.21	16.12	-0.37	
23	81224	0.59	0.49	0.61	0.03	58.84	12.48	-0.13	21.75	-0.38	6.88	-0.15	
24	81224	0.83	0.50	0.74	0.04	82.94	6.82	-0.27	4.76	-0.25	5.42	-0.29	
25	81224	0.82	0.43	0.62	0.02	82.03	3.48	-0.23	12.22	-0.26	2.25	-0.25	
26	81224	0.80	0.56	0.79	0.03	79.56	7.88	-0.29	7.68	-0.30	4.84	-0.31	
27	81224	0.92	0.25	0.46	0.01	92.01	2.68	-0.14	3.52	-0.14	1.77	-0.15	
28	81224	0.67	0.42	0.54	0.05	66.86	8.49	-0.27	7.66	-0.24	16.93	-0.15	
29	81224	0.71	0.39	0.52	0.03	70.85	9.06	-0.25	12.98	-0.11	7.07	-0.26	
30	81224	0.43	0.39	0.50	0.07	42.52	15.87	-0.12	28.21	-0.20	13.31	-0.17	
31	81224	0.89	0.37	0.62	0.05	89.29	5.61	-0.22	2.59	-0.18	2.46	-0.22	
32	81224	0.54	0.45	0.57	0.04	54.39	16.95	-0.26	19.29	-0.21	9.32	-0.16	
33	81224	0.60	0.40	0.51	0.04	59.71	8.48	-0.21	20.64	-0.25	11.12	-0.12	
34	81224	0.82	0.51	0.75	0.04	81.72	6.72	-0.28	6.12	-0.22	5.35	-0.34	
35	81224	0.72	0.47	0.62	0.05	71.66	5.54	-0.21	10.87	-0.24	11.86	-0.27	
36	81224	0.66	0.57	0.74	0.07	65.58	19.94	-0.39	9.80	-0.22	4.61	-0.23	
37	81224	0.64	0.54	0.69	0.04	64.43	13.86	-0.41	13.91	-0.21	7.73	-0.15	
38	81224	0.79	0.46	0.65	0.05	79.15	2.67	-0.22	13.64	-0.29	4.48	-0.24	
39	81224	0.62	0.49	0.62	0.11	61.88	23.33	-0.25	7.65	-0.25	7.03	-0.25	
40	81224	0.87	0.28	0.43	0.00	86.52	2.83	-0.16	3.30	-0.19	7.34	-0.13	

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.3 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics CRT Grade 5**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	81224	0.77	0.48	0.67	0.03	77.03	9.34	-0.23	7.53	-0.27	6.05	-0.26
42	81224	0.76	0.46	0.63	0.06	76.25	6.31	-0.25	11.10	-0.18	6.26	-0.32
43	81224	0.72	0.59	0.78	0.10	71.55	8.89	-0.31	9.03	-0.30	10.42	-0.30
44	81224	0.71	0.56	0.74	0.01	71.26	12.91	-0.35	12.19	-0.29	3.62	-0.21
45	81224	0.58	0.40	0.51	0.06	58.05	15.11	-0.30	13.61	-0.19	13.17	-0.08
46	81224	0.60	0.40	0.51	0.08	59.63	15.61	-0.24	13.02	-0.18	11.64	-0.15
47	81224	0.56	0.41	0.52	0.06	56.42	18.16	-0.09	17.23	-0.32	8.11	-0.18
48	81224	0.52	0.42	0.53	0.07	51.55	8.04	-0.30	18.74	-0.32	21.58	0.00
49	81224	0.88	0.36	0.58	0.01	87.50	5.06	-0.23	3.47	-0.18	3.93	-0.17
50	81224	0.73	0.52	0.70	0.03	73.01	17.56	-0.38	5.69	-0.22	3.70	-0.18
51	81224	0.66	0.62	0.81	0.04	66.42	3.11	-0.22	14.66	-0.39	15.73	-0.32
52	81224	0.64	0.45	0.58	0.09	64.11	10.94	-0.22	14.28	-0.21	10.54	-0.25
53	81224	0.58	0.59	0.75	0.04	57.82	11.33	-0.16	25.45	-0.45	5.34	-0.21
54	81224	0.62	0.39	0.50	0.07	61.51	24.98	-0.25	5.78	-0.21	7.66	-0.12
55	81224	0.69	0.46	0.60	0.04	69.34	11.04	-0.23	14.66	-0.24	4.91	-0.24
56	81224	0.86	0.46	0.70	0.03	85.61	5.23	-0.21	5.52	-0.28	3.60	-0.26
57	81224	0.80	0.50	0.71	0.03	80.34	8.52	-0.23	8.41	-0.33	2.68	-0.25
58	81224	0.90	0.41	0.71	0.04	90.32	3.61	-0.25	3.93	-0.22	2.08	-0.22
59	81224	0.55	0.43	0.54	0.04	54.65	15.80	-0.32	24.05	-0.12	5.45	-0.20
60	81224	0.85	0.43	0.66	0.05	85.16	3.59	-0.23	4.18	-0.26	7.00	-0.23
61	81224	0.78	0.44	0.62	0.04	77.92	4.90	-0.25	12.14	-0.23	4.99	-0.24
62	81224	0.59	0.38	0.49	0.03	58.88	16.42	-0.25	13.65	-0.13	11.00	-0.16
63	81224	0.62	0.42	0.54	0.09	61.50	18.02	-0.17	11.41	-0.29	8.95	-0.16
64	81224	0.41	0.39	0.49	0.09	41.21	10.86	-0.20	30.81	-0.08	17.01	-0.25
65	81224	0.53	0.27	0.34	0.09	52.95	35.56	-0.02	7.90	-0.30	3.49	-0.22
66	81224	0.61	0.38	0.48	0.18	61.47	19.60	-0.16	10.50	-0.23	8.23	-0.19
67	81224	0.59	0.40	0.50	0.05	59.11	7.06	-0.21	13.43	-0.18	20.34	-0.20
68	81224	0.61	0.42	0.53	0.17	60.51	12.60	-0.20	11.65	-0.18	15.07	-0.22

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.4**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics CRT Grade 6**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	81555	0.88	0.46	0.75	0.01	87.71	2.29	-0.24	7.87	-0.34	2.11	-0.17
2	81555	0.66	0.43	0.56	0.17	66.37	18.09	-0.25	11.30	-0.26	4.06	-0.13
3	81555	0.48	0.23	0.29	0.07	47.55	5.19	-0.22	6.91	-0.30	40.27	0.02
4	81555	0.72	0.49	0.65	0.06	72.31	12.51	-0.29	9.14	-0.21	5.98	-0.26
5	81555	0.92	0.40	0.73	0.02	91.67	3.24	-0.22	3.00	-0.25	2.05	-0.21
6	81555	0.92	0.33	0.60	0.02	91.88	4.00	-0.20	2.56	-0.18	1.53	-0.18
7	81555	0.59	0.53	0.67	0.03	59.34	3.20	-0.16	34.72	-0.42	2.70	-0.18
8	81555	0.67	0.47	0.61	0.05	66.68	15.19	-0.33	3.29	-0.12	14.78	-0.24
9	81555	0.83	0.48	0.72	0.02	83.23	8.22	-0.30	3.46	-0.29	5.07	-0.21
10	81555	0.76	0.33	0.45	0.03	75.83	7.45	-0.17	7.59	-0.11	9.10	-0.22
11	81555	0.79	0.49	0.68	0.06	78.58	7.48	-0.29	6.70	-0.28	7.18	-0.20
12	81555	0.56	0.33	0.41	0.06	56.33	18.74	-0.07	11.58	-0.21	13.28	-0.20
13	81555	0.73	0.45	0.61	0.03	73.28	6.15	-0.21	10.59	-0.31	9.94	-0.18
14	81555	0.62	0.50	0.64	0.04	62.17	21.39	-0.31	7.43	-0.23	8.95	-0.19
15	81555	0.80	0.49	0.71	0.02	80.36	4.38	-0.14	10.07	-0.40	5.16	-0.22
16	81555	0.68	0.23	0.30	0.07	67.86	5.63	-0.22	17.78	-0.05	8.65	-0.13
17	81555	0.67	0.51	0.67	0.05	67.40	25.54	-0.38	4.29	-0.23	2.71	-0.16
18	81555	0.63	0.48	0.62	0.03	62.73	5.51	-0.31	22.07	-0.22	9.64	-0.23
19	81555	0.64	0.49	0.63	0.04	64.43	12.93	-0.25	17.97	-0.29	4.62	-0.18
20	81555	0.54	0.40	0.50	0.07	54.09	16.33	-0.22	13.68	-0.15	15.81	-0.18
21	81555	0.81	0.50	0.71	0.05	80.63	6.27	-0.31	8.21	-0.29	4.83	-0.19
22	81555	0.94	0.34	0.66	0.01	93.72	0.96	-0.12	1.12	-0.17	4.17	-0.26
23	81555	0.89	0.34	0.57	0.02	88.85	2.36	-0.20	3.24	-0.19	5.51	-0.19
24	81555	0.67	0.49	0.64	0.06	66.57	23.78	-0.42	5.06	-0.14	4.53	-0.12
25	81555	0.72	0.31	0.41	0.01	71.97	1.23	-0.15	24.33	-0.22	2.45	-0.17
26	81555	0.82	0.28	0.40	0.03	82.25	4.21	-0.20	11.38	-0.11	2.12	-0.19
27	81555	0.78	0.45	0.63	0.02	78.26	2.75	-0.20	4.02	-0.21	14.95	-0.31
28	81555	0.77	0.34	0.48	0.03	77.38	1.91	-0.18	7.88	-0.21	12.77	-0.19
29	81555	0.57	0.37	0.47	0.11	56.61	9.29	-0.17	20.41	-0.15	13.57	-0.22
30	81555	0.78	0.51	0.72	0.02	78.01	10.40	-0.32	5.97	-0.28	5.60	-0.22
31	81555	0.78	0.37	0.52	0.04	77.69	6.18	-0.25	11.88	-0.14	4.21	-0.24
32	81555	0.67	0.42	0.55	0.06	67.05	16.20	-0.19	7.99	-0.26	8.68	-0.20
33	81555	0.78	0.49	0.68	0.07	78.04	2.49	-0.21	5.73	-0.19	13.66	-0.36
34	81555	0.68	0.45	0.59	0.02	68.43	8.70	-0.24	15.56	-0.20	7.27	-0.28
35	81555	0.74	0.42	0.56	0.04	73.82	9.61	-0.21	5.53	-0.19	10.99	-0.24
36	81555	0.49	0.33	0.42	0.03	48.62	22.13	-0.20	19.70	-0.09	9.51	-0.16
37	81555	0.68	0.50	0.65	0.05	68.15	13.90	-0.19	9.43	-0.30	8.44	-0.27
38	81555	0.78	0.43	0.60	0.04	77.98	6.49	-0.21	5.25	-0.18	10.22	-0.28
39	81555	0.63	0.46	0.59	0.05	62.78	8.90	-0.32	23.58	-0.24	4.66	-0.13
40	81555	0.74	0.54	0.74	0.09	74.14	9.10	-0.29	9.33	-0.29	7.32	-0.26

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.4 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics CRT Grade 6**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	81555	0.72	0.50	0.67	0.02	71.88	12.44	-0.35	14.07	-0.24	1.58	-0.21
42	81555	0.64	0.37	0.48	0.05	63.74	17.03	-0.15	9.86	-0.20	9.31	-0.21
43	81555	0.47	0.37	0.46	0.06	47.33	25.19	-0.10	19.93	-0.21	7.48	-0.22
44	81555	0.71	0.58	0.77	0.06	70.80	10.78	-0.30	5.28	-0.24	13.06	-0.35
45	81555	0.45	0.40	0.50	0.03	45.31	36.67	-0.20	8.77	-0.17	9.22	-0.18
46	81555	0.80	0.54	0.77	0.04	79.67	5.37	-0.21	6.04	-0.28	8.87	-0.36
47	81555	0.64	0.44	0.56	0.04	63.61	9.87	-0.33	21.18	-0.18	5.29	-0.16
48	81555	0.54	0.42	0.53	0.07	54.40	23.96	-0.27	11.37	-0.12	10.19	-0.19
49	81555	0.86	0.43	0.67	0.05	85.67	4.82	-0.21	6.21	-0.26	3.24	-0.24
50	81555	0.51	0.32	0.41	0.02	50.89	13.32	-0.26	7.95	-0.29	27.80	0.01
51	81555	0.71	0.41	0.55	0.03	70.93	13.05	-0.25	5.52	-0.22	10.45	-0.17
52	81555	0.63	0.37	0.47	0.02	62.77	3.29	-0.21	28.91	-0.23	4.99	-0.17
53	81555	0.70	0.39	0.51	0.03	69.56	8.52	-0.13	19.00	-0.30	2.88	-0.13
54	81555	0.67	0.44	0.57	0.02	66.58	15.87	-0.18	8.46	-0.31	9.06	-0.19
55	81555	0.61	0.35	0.45	0.04	60.60	18.91	-0.21	9.72	-0.16	10.73	-0.14
56	81555	0.75	0.52	0.71	0.04	75.13	8.72	-0.26	9.33	-0.30	6.76	-0.25
57	81555	0.68	0.45	0.59	0.03	68.33	5.73	-0.20	9.78	-0.23	16.12	-0.26
58	81555	0.82	0.56	0.82	0.05	81.56	7.62	-0.31	4.64	-0.30	6.11	-0.30
59	81555	0.57	0.46	0.58	0.03	57.28	10.38	-0.29	12.84	-0.21	19.45	-0.17
60	81555	0.67	0.37	0.49	0.02	67.33	11.95	-0.21	14.27	-0.16	6.42	-0.21
61	81555	0.65	0.44	0.57	0.05	65.27	20.85	-0.15	7.46	-0.31	6.35	-0.28
62	81555	0.47	0.47	0.59	0.05	46.63	14.69	-0.22	27.35	-0.23	11.25	-0.16
63	81555	0.71	0.55	0.73	0.06	71.36	11.18	-0.25	8.69	-0.27	8.69	-0.33
64	81555	0.64	0.52	0.67	0.02	63.77	15.10	-0.26	13.43	-0.26	7.67	-0.26
65	81555	0.50	0.44	0.55	0.06	50.33	29.03	-0.22	14.45	-0.23	6.11	-0.16
66	81555	0.78	0.35	0.49	0.04	77.79	4.02	-0.18	6.53	-0.13	11.58	-0.24
67	81555	0.82	0.44	0.65	0.05	81.98	3.59	-0.22	5.37	-0.22	9.00	-0.28
68	81555	0.51	0.37	0.46	0.09	51.37	14.36	-0.18	16.83	-0.16	17.34	-0.15

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.5**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics CRT Grade 7**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%		%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	80800	0.77	0.44	0.61	0.02	76.86		1.46	-0.15	9.79	-0.27	11.87	-0.28
2	80800	0.54	0.36	0.45	0.08	54.12		14.62	-0.24	17.49	-0.24	13.69	-0.02
3	80800	0.69	0.35	0.45	0.07	68.58		17.22	-0.06	5.80	-0.22	8.33	-0.31
4	80800	0.80	0.41	0.58	0.07	79.74		5.15	-0.22	13.10	-0.26	1.92	-0.20
5	80800	0.79	0.31	0.43	0.02	78.87		3.14	-0.21	5.10	-0.24	12.87	-0.11
6	80800	0.74	0.44	0.59	0.03	73.54		16.71	-0.28	5.26	-0.25	4.46	-0.17
7	80800	0.87	0.37	0.59	0.04	87.47		2.63	-0.19	7.25	-0.26	2.60	-0.15
8	80800	0.70	0.41	0.54	0.03	69.85		5.10	-0.16	13.14	-0.20	11.88	-0.26
9	80800	0.62	0.43	0.55	0.05	61.98		7.35	-0.17	23.92	-0.31	6.70	-0.13
10	80800	0.80	0.43	0.62	0.03	79.91		10.32	-0.22	5.15	-0.26	4.58	-0.23
11	80800	0.85	0.41	0.63	0.02	85.40		7.03	-0.21	5.47	-0.26	2.08	-0.21
12	80800	0.60	0.32	0.41	0.04	59.66		16.65	-0.05	12.19	-0.26	11.44	-0.16
13	80800	0.70	0.43	0.56	0.05	69.67		4.98	-0.24	6.87	-0.22	18.42	-0.23
14	80800	0.48	0.33	0.41	0.06	47.96		11.45	-0.22	25.41	-0.07	15.10	-0.18
15	80800	0.82	0.43	0.63	0.02	82.25		5.14	-0.26	6.29	-0.18	6.29	-0.25
16	80800	0.75	0.48	0.65	0.03	74.88		3.34	-0.22	15.24	-0.29	6.49	-0.26
17	80800	0.40	0.32	0.40	0.08	39.64		11.95	-0.20	32.11	-0.02	16.20	-0.22
18	80800	0.55	0.41	0.51	0.06	55.14		10.06	-0.08	24.84	-0.19	9.90	-0.32
19	80800	0.86	0.46	0.71	0.06	86.03		4.81	-0.31	4.40	-0.24	4.70	-0.20
20	80800	0.72	0.46	0.61	0.11	71.69		9.91	-0.14	7.75	-0.26	10.51	-0.30
21	80800	0.60	0.38	0.49	0.05	60.06		10.50	-0.23	14.36	-0.25	15.02	-0.08
22	80800	0.53	0.52	0.65	0.08	53.13		11.46	-0.22	15.65	-0.27	19.67	-0.23
23	80800	0.79	0.41	0.58	0.00	78.53		15.06	-0.19	1.94	-0.23	4.47	-0.34
24	80800	0.66	0.49	0.64	0.03	65.70		8.96	-0.18	13.12	-0.23	12.19	-0.33
25	80800	0.79	0.43	0.61	0.05	79.13		9.09	-0.18	5.65	-0.26	6.07	-0.27
26	80800	0.85	0.38	0.59	0.03	84.80		8.40	-0.18	3.17	-0.26	3.59	-0.22
27	80800	0.60	0.50	0.64	0.08	59.79		25.56	-0.32	9.86	-0.22	4.69	-0.18
28	80800	0.79	0.35	0.50	0.03	78.63		4.67	-0.24	5.39	-0.25	11.26	-0.12
29	80800	0.74	0.56	0.75	0.06	73.98		7.22	-0.25	9.02	-0.33	9.71	-0.28
30	80800	0.66	0.48	0.62	0.03	66.21		5.78	-0.24	11.93	-0.33	16.04	-0.17
31	80800	0.75	0.49	0.66	0.11	75.43		9.20	-0.26	8.69	-0.28	6.57	-0.22
32	80800	0.88	0.41	0.67	0.03	88.19		6.53	-0.24	3.54	-0.25	1.68	-0.21
33	80800	0.80	0.45	0.64	0.03	80.30		9.93	-0.23	5.69	-0.22	4.03	-0.30
34	80800	0.69	0.45	0.60	0.05	69.22		7.18	-0.13	13.38	-0.24	10.15	-0.31
35	80800	0.72	0.49	0.65	0.03	72.21		10.63	-0.26	12.62	-0.29	4.51	-0.21
36	80800	0.83	0.51	0.76	0.04	83.23		7.82	-0.30	5.57	-0.28	3.33	-0.24
37	80800	0.73	0.49	0.65	0.03	73.31		12.57	-0.30	6.64	-0.28	7.44	-0.18
38	80800	0.39	0.38	0.48	0.07	39.43		22.89	-0.18	21.02	-0.17	16.57	-0.11
39	80800	0.71	0.54	0.72	0.04	70.72		11.02	-0.29	11.00	-0.26	7.21	-0.29
40	80800	0.66	0.39	0.51	0.03	65.78		18.71	-0.22	10.09	-0.19	5.38	-0.19

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.5 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics CRT Grade 7**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%		%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	80800	0.64	0.45	0.58	0.05	63.59		8.97	-0.28	22.04	-0.21	5.34	-0.23
42	80800	0.46	0.42	0.53	0.05	45.73		25.07	-0.08	10.21	-0.25	18.92	-0.25
43	80800	0.78	0.49	0.69	0.04	77.75		8.38	-0.25	8.73	-0.30	5.08	-0.23
44	80800	0.36	0.29	0.38	0.05	36.11		6.92	-0.10	46.49	-0.15	10.41	-0.13
45	80800	0.53	0.32	0.40	0.01	52.84		13.13	-0.21	27.97	-0.12	6.05	-0.15
46	80800	0.63	0.41	0.52	0.07	63.00		16.59	-0.17	11.93	-0.25	8.41	-0.18
47	80800	0.75	0.41	0.56	0.03	75.48		10.43	-0.26	5.36	-0.26	8.68	-0.14
48	80800	0.69	0.42	0.55	0.07	69.25		7.94	-0.21	16.67	-0.27	6.06	-0.15
49	80800	0.89	0.42	0.71	0.03	89.33		3.28	-0.24	3.40	-0.23	3.94	-0.24
50	80800	0.77	0.51	0.70	0.04	77.18		10.09	-0.22	8.14	-0.33	4.55	-0.27
51	80800	0.49	0.37	0.47	0.04	49.18		21.07	-0.32	8.64	-0.18	21.06	-0.02
52	80800	0.67	0.49	0.63	0.03	66.59		6.62	-0.20	22.73	-0.32	4.01	-0.23
53	80800	0.88	0.35	0.57	0.04	88.08		2.97	-0.22	4.96	-0.19	3.95	-0.18
54	80800	0.62	0.35	0.44	0.03	61.96		25.92	-0.08	4.43	-0.31	7.64	-0.26
55	80800	0.78	0.52	0.72	0.05	77.86		5.96	-0.29	7.12	-0.26	9.00	-0.27
56	80800	0.91	0.36	0.62	0.01	90.50		5.49	-0.23	2.67	-0.20	1.33	-0.18
57	80800	0.83	0.54	0.80	0.03	82.92		6.04	-0.30	4.46	-0.28	6.55	-0.30
58	80800	0.80	0.31	0.44	0.03	79.68		7.04	-0.19	11.21	-0.15	2.03	-0.19
59	80800	0.52	0.30	0.38	0.05	52.00		12.18	-0.14	18.93	-0.16	16.83	-0.11
60	80800	0.53	0.28	0.36	0.03	53.27		22.02	-0.25	13.02	-0.17	11.65	0.07
61	80800	0.82	0.44	0.64	0.03	81.64		10.96	-0.26	4.48	-0.27	2.88	-0.20
62	80800	0.68	0.48	0.63	0.05	68.08		7.55	-0.25	17.63	-0.28	6.68	-0.21
63	80800	0.62	0.34	0.43	0.09	62.07		10.53	-0.20	9.63	-0.23	17.67	-0.09
64	80800	0.65	0.53	0.69	0.04	64.61		14.28	-0.20	7.78	-0.24	13.27	-0.35
65	80800	0.87	0.38	0.60	0.04	87.06		3.35	-0.24	5.86	-0.17	3.67	-0.23
66	80800	0.79	0.53	0.74	0.05	78.83		8.70	-0.28	7.74	-0.31	4.67	-0.24
67	80800	0.81	0.51	0.74	0.04	81.34		9.32	-0.33	5.76	-0.25	3.53	-0.23
68	80800	0.50	0.32	0.40	0.08	50.13		18.38	-0.16	20.69	-0.13	10.71	-0.14

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.6**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics CRT Grade 8**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	80496	0.56	0.44	0.56	0.02	55.95	4.52	-0.22	5.14	-0.16	34.36	-0.29
2	80496	0.63	0.42	0.54	0.09	62.68	5.45	-0.18	23.36	-0.20	8.42	-0.29
3	80496	0.89	0.38	0.64	0.03	89.47	4.57	-0.22	4.24	-0.23	1.70	-0.18
4	80496	0.70	0.46	0.61	0.08	69.72	11.20	-0.37	7.91	-0.22	11.09	-0.11
5	80496	0.56	0.40	0.50	0.05	56.23	13.65	-0.18	22.43	-0.25	7.64	-0.12
6	80496	0.39	0.38	0.48	0.16	39.25	23.94	-0.32	32.72	-0.08	3.92	-0.05
7	80496	0.38	0.35	0.45	0.08	38.37	18.86	-0.16	30.91	-0.16	11.77	-0.11
8	80496	0.62	0.42	0.53	0.05	61.82	7.61	-0.19	6.64	-0.24	23.86	-0.22
9	80496	0.66	0.45	0.59	0.08	65.51	18.99	-0.22	9.70	-0.26	5.71	-0.22
10	80496	0.73	0.39	0.52	0.06	72.51	4.31	-0.20	12.85	-0.17	10.27	-0.25
11	80496	0.49	0.43	0.54	0.03	48.69	11.69	-0.14	28.69	-0.20	10.89	-0.25
12	80496	0.66	0.45	0.59	0.05	66.28	8.14	-0.24	15.89	-0.20	9.63	-0.25
13	80496	0.80	0.41	0.59	0.06	79.74	4.90	-0.13	7.18	-0.29	8.13	-0.22
14	80496	0.81	0.37	0.54	0.04	81.48	8.36	-0.20	5.77	-0.24	4.34	-0.16
15	80496	0.59	0.36	0.45	0.04	59.13	20.12	-0.30	17.18	-0.05	3.53	-0.21
16	80496	0.80	0.40	0.58	0.06	80.44	3.00	-0.21	7.68	-0.23	8.81	-0.22
17	80496	0.72	0.33	0.44	0.03	72.27	8.97	-0.09	9.84	-0.23	8.89	-0.18
18	80496	0.51	0.41	0.52	0.10	51.15	17.02	-0.21	18.80	-0.19	12.92	-0.15
19	80496	0.75	0.48	0.66	0.06	74.59	4.62	-0.29	9.97	-0.34	10.76	-0.16
20	80496	0.70	0.58	0.77	0.06	69.50	8.30	-0.28	8.25	-0.30	13.87	-0.32
21	80496	0.73	0.47	0.63	0.03	73.01	11.47	-0.30	10.59	-0.27	4.90	-0.13
22	80496	0.78	0.43	0.60	0.05	78.31	4.81	-0.23	6.86	-0.26	9.96	-0.20
23	80496	0.82	0.38	0.56	0.02	81.93	1.61	-0.16	13.27	-0.27	3.18	-0.20
24	80496	0.77	0.49	0.68	0.05	77.04	5.95	-0.23	11.49	-0.32	5.47	-0.20
25	80496	0.63	0.39	0.50	0.03	63.46	5.67	-0.23	13.64	-0.15	17.18	-0.22
26	80496	0.74	0.49	0.67	0.02	74.03	12.67	-0.26	6.26	-0.26	7.02	-0.26
27	80496	0.71	0.46	0.61	0.03	71.19	8.30	-0.25	9.44	-0.23	11.04	-0.23
28	80496	0.86	0.43	0.67	0.02	86.11	4.17	-0.28	3.60	-0.25	6.08	-0.19
29	80496	0.38	0.23	0.29	0.03	37.76	3.91	-0.25	22.78	-0.04	35.52	-0.09
30	80496	0.37	0.40	0.51	0.14	37.27	41.09	-0.07	8.30	-0.27	13.20	-0.25
31	80496	0.50	0.26	0.33	0.02	49.61	26.10	-0.11	4.16	-0.16	20.10	-0.13
32	80496	0.79	0.40	0.57	0.04	78.81	11.63	-0.20	5.01	-0.23	4.50	-0.24
33	80496	0.48	0.36	0.45	0.04	47.70	24.59	-0.11	17.46	-0.22	10.19	-0.17
34	80496	0.77	0.47	0.66	0.01	76.56	6.29	-0.25	8.38	-0.28	8.76	-0.22
35	80496	0.36	0.33	0.43	0.03	36.49	49.65	-0.07	6.32	-0.28	7.49	-0.23
36	80496	0.35	0.41	0.52	0.05	35.09	42.03	-0.15	15.22	-0.20	7.60	-0.18
37	80496	0.75	0.33	0.45	0.04	75.49	6.97	-0.21	12.01	-0.07	5.48	-0.28
38	80496	0.59	0.45	0.57	0.05	59.43	14.97	-0.22	16.34	-0.17	9.20	-0.26
39	80496	0.74	0.31	0.42	0.03	73.79	2.74	-0.17	16.05	-0.14	7.38	-0.22
40	80496	0.84	0.45	0.68	0.04	84.48	3.22	-0.25	7.01	-0.28	5.25	-0.22

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.6 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics CRT Grade 8**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	80496	0.79	0.27	0.38	0.04	78.92	4.05	-0.18	14.72	-0.14	2.27	-0.16
42	80496	0.54	0.42	0.53	0.08	53.59	19.26	-0.39	11.55	-0.21	15.52	0.03
43	80496	0.89	0.40	0.67	0.02	89.47	1.69	-0.19	2.41	-0.26	6.38	-0.24
44	80496	0.60	0.36	0.46	0.11	60.06	8.21	-0.10	17.27	-0.23	14.35	-0.17
45	80496	0.58	0.47	0.59	0.01	57.92	4.46	-0.25	33.93	-0.32	3.66	-0.14
46	80496	0.71	0.57	0.76	0.03	70.51	8.94	-0.31	10.60	-0.37	9.91	-0.20
47	80496	0.72	0.37	0.50	0.02	71.66	11.06	-0.23	2.76	-0.21	14.49	-0.18
48	80496	0.67	0.41	0.54	0.03	66.86	6.32	-0.24	10.39	-0.26	16.39	-0.16
49	80496	0.62	0.49	0.62	0.04	61.59	7.83	-0.25	17.64	-0.34	12.89	-0.13
50	80496	0.79	0.47	0.66	0.01	79.20	10.14	-0.29	7.43	-0.24	3.21	-0.22
51	80496	0.66	0.39	0.51	0.08	65.74	10.45	-0.19	16.02	-0.21	7.69	-0.19
52	80496	0.85	0.53	0.80	0.03	84.64	4.90	-0.26	8.56	-0.37	1.85	-0.22
53	80496	0.71	0.54	0.72	0.04	71.30	11.12	-0.30	8.58	-0.29	8.94	-0.24
54	80496	0.35	0.33	0.43	0.05	35.11	37.06	-0.26	17.84	-0.12	9.92	0.05
55	80496	0.71	0.41	0.54	0.03	71.12	10.55	-0.19	11.28	-0.23	7.01	-0.21
56	80496	0.77	0.52	0.72	0.07	77.45	10.60	-0.41	5.68	-0.19	6.18	-0.20
57	80496	0.87	0.35	0.56	0.03	87.22	3.26	-0.22	2.34	-0.19	7.14	-0.19
58	80496	0.73	0.41	0.55	0.07	73.21	5.25	-0.33	17.11	-0.17	4.35	-0.21
59	80496	0.68	0.45	0.59	0.03	67.92	5.87	-0.14	12.29	-0.24	13.89	-0.29
60	80496	0.59	0.42	0.53	0.03	58.73	7.13	-0.21	22.72	-0.13	11.37	-0.29
61	80496	0.75	0.28	0.38	0.05	75.03	3.32	-0.21	17.68	-0.12	3.90	-0.18
62	80496	0.65	0.38	0.49	0.04	65.23	10.92	-0.19	16.18	-0.21	7.63	-0.16
63	80496	0.32	0.26	0.34	0.03	31.98	11.18	-0.07	30.90	-0.04	25.89	-0.18
64	80496	0.78	0.49	0.69	0.04	78.27	8.88	-0.30	8.59	-0.28	4.19	-0.20
65	80496	0.60	0.29	0.37	0.05	59.81	14.26	-0.14	14.39	-0.19	11.47	-0.09
66	80496	0.72	0.47	0.63	0.06	72.16	4.22	-0.25	12.51	-0.24	11.05	-0.26

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.



**Table 6.4.7**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics CRT High School**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%		%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	73953	0.56	0.11	0.14	0.09	56.17		7.35	-0.17	20.37	0.06	16.02	-0.10
2	73953	0.87	0.40	0.63	0.04	87.38		1.14	-0.11	7.64	-0.30	3.80	-0.21
3	73953	0.67	0.43	0.56	0.04	66.76		9.12	-0.21	8.82	-0.24	15.26	-0.21
4	73953	0.68	0.46	0.60	0.06	67.90		7.61	-0.11	17.87	-0.31	6.56	-0.27
5	73953	0.61	0.53	0.68	0.08	61.02		5.60	-0.15	13.20	-0.38	20.10	-0.24
6	73953	0.51	0.24	0.30	0.15	51.49		21.32	-0.07	17.49	-0.15	9.53	-0.11
7	73953	0.79	0.39	0.56	0.02	79.47		1.82	-0.14	1.84	-0.17	16.84	-0.31
8	73953	0.52	0.43	0.54	0.04	51.79		34.53	-0.14	8.52	-0.33	5.12	-0.25
9	73953	0.52	0.41	0.51	0.14	51.76		30.32	-0.28	10.82	-0.16	6.95	-0.10
10	73953	0.77	0.46	0.63	0.09	76.53		9.84	-0.24	6.09	-0.24	7.44	-0.24
11	73953	0.67	0.43	0.56	0.17	66.82		10.44	-0.18	17.71	-0.27	4.85	-0.21
12	73953	0.60	0.53	0.67	0.02	59.55		27.55	-0.42	10.59	-0.15	2.29	-0.18
13	73953	0.52	0.32	0.40	0.12	51.57		18.90	0.02	10.94	-0.14	18.47	-0.32
14	73953	0.90	0.41	0.69	0.02	89.79		1.00	-0.18	6.09	-0.38	3.10	-0.08
15	73953	0.42	0.34	0.43	0.04	42.00		13.58	-0.34	28.46	-0.16	15.91	0.06
16	73953	0.93	0.33	0.63	0.02	93.26		1.50	-0.17	3.46	-0.20	1.76	-0.18
17	73953	0.80	0.34	0.48	0.03	80.34		5.02	-0.14	10.64	-0.21	3.98	-0.20
18	73953	0.56	0.41	0.52	0.11	55.97		14.25	-0.17	12.85	-0.33	16.82	-0.09
19	73953	0.47	0.23	0.29	0.09	47.09		23.86	-0.23	13.38	-0.17	15.58	0.11
20	73953	0.51	0.50	0.62	0.13	51.31		26.33	-0.37	18.03	-0.18	4.20	-0.09
21	73953	0.83	0.48	0.70	0.07	82.66		9.08	-0.33	5.21	-0.24	2.98	-0.17
22	73953	0.89	0.42	0.69	0.04	88.54		3.20	-0.24	3.26	-0.26	4.96	-0.20
23	73953	0.70	0.47	0.61	0.06	70.20		12.32	-0.16	12.68	-0.33	4.74	-0.24
24	73953	0.48	0.37	0.47	0.20	47.96		20.05	-0.22	23.09	-0.17	8.70	-0.09
25	73953	0.93	0.30	0.57	0.03	92.74		1.94	-0.16	3.66	-0.18	1.61	-0.18
26	73953	0.85	0.44	0.68	0.05	84.67		3.94	-0.20	4.13	-0.27	7.20	-0.26
27	73953	0.61	0.57	0.72	0.05	61.22		25.03	-0.44	10.86	-0.22	2.86	-0.10
28	73953	0.84	0.46	0.68	0.05	83.58		8.42	-0.24	4.28	-0.27	3.66	-0.25
29	73953	0.74	0.54	0.73	0.08	73.95		7.97	-0.30	7.51	-0.28	10.49	-0.27
30	73953	0.61	0.41	0.53	0.11	60.94		19.73	-0.11	13.69	-0.32	5.52	-0.21
31	73953	0.85	0.38	0.59	0.06	85.05		3.29	-0.21	3.24	-0.19	8.35	-0.23
32	73953	0.53	0.53	0.67	0.05	52.76		25.98	-0.30	10.70	-0.19	10.50	-0.25
33	73953	0.46	0.26	0.32	0.11	46.31		15.81	-0.07	14.46	-0.16	23.29	-0.11
34	73953	0.77	0.51	0.71	0.07	77.30		6.27	-0.26	11.02	-0.29	5.34	-0.26
35	73953	0.78	0.56	0.79	0.06	78.11		6.03	-0.35	12.63	-0.36	3.17	-0.16
36	73953	0.67	0.41	0.54	0.05	67.25		17.92	-0.22	8.35	-0.30	6.42	-0.10
37	73953	0.65	0.30	0.39	0.09	65.43		9.68	-0.17	13.52	-0.18	11.28	-0.10
38	73953	0.59	0.41	0.52	0.08	59.37		13.61	-0.27	19.38	-0.16	7.55	-0.17
39	73953	0.58	0.44	0.56	0.10	58.21		14.51	-0.21	14.51	-0.25	12.67	-0.17
40	73953	0.52	0.52	0.65	0.11	52.46		18.76	-0.25	19.13	-0.26	9.54	-0.20

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.7 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics CRT High School**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	73953	0.58	0.40	0.51	0.06	58.12	10.85	-0.14	22.24	-0.26	8.73	-0.17
42	73953	0.72	0.46	0.61	0.06	71.81	8.58	-0.27	11.48	-0.18	8.08	-0.27
43	73953	0.45	0.30	0.37	0.63	45.30	20.66	-0.11	22.36	-0.18	11.04	-0.09
44	73953	0.49	0.37	0.46	0.14	49.44	26.82	-0.22	14.45	-0.16	9.15	-0.10
45	73953	0.47	0.46	0.58	0.15	47.33	14.86	-0.20	12.17	-0.24	25.49	-0.18
46	73953	0.54	0.31	0.39	0.05	53.55	10.63	-0.11	16.80	-0.25	18.97	-0.07
47	73953	0.70	0.35	0.46	0.10	69.95	9.89	-0.11	10.54	-0.24	9.50	-0.18
48	73953	0.86	0.38	0.60	0.06	86.03	5.16	-0.27	4.96	-0.21	3.79	-0.14
49	73953	0.58	0.35	0.45	0.05	58.29	17.98	-0.19	9.17	-0.27	14.51	-0.07
50	73953	0.73	0.35	0.47	0.07	73.21	15.18	-0.10	4.91	-0.25	6.62	-0.26
51	73953	0.58	0.41	0.52	0.38	57.53	14.57	-0.20	17.04	-0.23	10.48	-0.14
52	73953	0.37	0.43	0.55	0.04	37.00	47.61	-0.17	8.10	-0.23	7.24	-0.24
53	73953	0.82	0.42	0.62	0.03	82.36	3.27	-0.21	9.36	-0.27	4.97	-0.20
54	73953	0.64	0.31	0.40	0.06	64.00	14.53	-0.09	7.61	-0.22	13.79	-0.17
55	73953	0.50	0.60	0.75	0.13	49.86	13.69	-0.32	13.41	-0.24	22.89	-0.26
56	73953	0.74	0.47	0.64	0.06	73.96	9.96	-0.23	5.56	-0.24	10.46	-0.26
57	73953	0.55	0.38	0.48	0.11	54.61	13.94	-0.21	20.26	-0.16	11.07	-0.16
58	73953	0.71	0.49	0.65	0.07	71.28	16.84	-0.27	4.92	-0.25	6.88	-0.27
59	73953	0.82	0.46	0.68	0.06	82.46	8.57	-0.28	4.58	-0.26	4.34	-0.20
60	73953	0.53	0.34	0.43	0.13	52.90	10.51	-0.22	22.20	-0.07	14.25	-0.21
61	73953	0.74	0.56	0.75	0.04	73.56	13.23	-0.38	10.90	-0.27	2.27	-0.22
62	73953	0.64	0.47	0.60	0.05	63.80	18.43	-0.09	14.26	-0.43	3.45	-0.22
63	73953	0.61	0.49	0.63	0.07	61.18	10.72	-0.18	12.32	-0.34	15.70	-0.20
64	73953	0.69	0.56	0.74	0.04	69.34	9.47	-0.34	7.68	-0.24	13.47	-0.28
65	73953	0.62	0.44	0.56	0.24	62.40	17.63	-0.21	13.37	-0.27	6.36	-0.17
66	73953	0.60	0.32	0.40	0.04	60.23	18.79	-0.18	16.42	-0.10	4.50	-0.23
67	73953	0.52	0.34	0.43	0.11	52.04	15.03	-0.17	12.95	-0.26	19.86	-0.05
68	73953	0.84	0.42	0.63	0.06	83.83	4.98	-0.24	4.31	-0.27	6.81	-0.18
69	73953	0.87	0.47	0.75	0.05	86.92	4.99	-0.25	4.15	-0.27	3.88	-0.25
70	73953	0.71	0.54	0.72	0.09	71.31	11.02	-0.40	12.69	-0.28	4.88	-0.12
71	73953	0.79	0.49	0.68	0.06	78.80	9.17	-0.23	6.28	-0.31	5.68	-0.24
72	73953	0.71	0.49	0.65	0.06	70.60	6.20	-0.24	14.52	-0.32	8.61	-0.19
73	73953	0.78	0.43	0.61	0.06	78.25	11.60	-0.19	6.07	-0.29	4.03	-0.24
74	73953	0.63	0.43	0.55	0.11	63.17	18.15	-0.20	14.40	-0.25	4.17	-0.21
75	73953	0.66	0.47	0.61	0.10	66.05	17.22	-0.22	10.12	-0.26	6.51	-0.24
76	73953	0.91	0.40	0.70	0.06	90.81	3.58	-0.20	3.30	-0.27	2.25	-0.19
77	73953	0.72	0.53	0.70	0.08	72.02	16.51	-0.31	5.10	-0.28	6.29	-0.24
78	73953	0.64	0.46	0.59	0.07	64.43	13.83	-0.18	13.22	-0.24	8.43	-0.26
79	73953	0.50	0.30	0.38	0.09	49.64	20.14	-0.12	11.90	-0.20	18.23	-0.10
80	73953	0.59	0.37	0.47	0.11	58.99	12.77	-0.23	19.15	-0.12	8.98	-0.21
81	73953	0.75	0.39	0.53	0.06	75.25	3.99	-0.26	6.65	-0.24	14.06	-0.15
82	73953	0.78	0.48	0.67	0.08	77.73	11.16	-0.33	7.63	-0.23	3.40	-0.19
83	73953	0.80	0.49	0.70	0.07	80.47	6.48	-0.27	6.70	-0.29	6.27	-0.22
84	73953	0.81	0.39	0.56	0.08	81.32	9.09	-0.18	4.30	-0.25	5.20	-0.21
85	73953	0.58	0.37	0.46	0.07	58.43	9.84	-0.16	16.64	-0.21	15.02	-0.15

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.8**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading CRT Grade 3**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	83182	0.93	0.38	0.73	0.10	93.27	5.12	-0.30	1.50	-0.23	0.00	0.00	
2	83182	0.85	0.35	0.54	0.17	84.56	4.80	-0.24	10.47	-0.24	0.00	0.00	
3	83182	0.94	0.35	0.70	0.14	94.05	2.77	-0.26	3.04	-0.23	0.00	0.00	
4	83182	0.81	0.39	0.56	0.17	80.75	8.80	-0.28	10.27	-0.24	0.00	0.00	
5	83182	0.68	0.48	0.63	0.25	68.41	9.88	-0.32	11.08	-0.20	10.37	-0.21	
6	83182	0.81	0.53	0.77	1.22	80.53	5.68	-0.31	8.16	-0.30	4.41	-0.27	
7	83182	0.90	0.43	0.73	0.22	89.56	2.64	-0.25	5.03	-0.23	2.54	-0.26	
8	83182	0.80	0.48	0.69	0.38	80.21	6.86	-0.23	6.82	-0.27	5.72	-0.27	
9	83182	0.76	0.56	0.76	0.56	76.02	9.11	-0.31	7.08	-0.28	7.23	-0.28	
10	83182	0.63	0.47	0.60	0.65	63.44	12.93	-0.24	5.82	-0.24	17.14	-0.22	
11	83182	0.66	0.40	0.52	0.25	65.95	10.68	-0.20	17.35	-0.17	5.76	-0.27	
12	83182	0.64	0.47	0.61	0.40	64.41	23.16	-0.21	6.09	-0.28	5.92	-0.30	
13	83182	0.40	0.34	0.43	0.36	40.01	38.87	-0.05	10.84	-0.22	9.91	-0.23	
14	83182	0.83	0.54	0.80	0.72	82.99	6.85	-0.30	4.30	-0.30	5.13	-0.29	
15	83182	0.32	0.32	0.42	2.15	31.56	10.33	-0.27	32.12	0.05	23.82	-0.17	
16	83182	0.60	0.19	0.24	0.19	60.29	6.23	-0.24	22.45	0.06	10.83	-0.19	
17	83182	0.70	0.48	0.63	0.15	69.65	7.88	-0.26	13.07	-0.21	9.25	-0.28	
18	83182	0.55	0.38	0.48	0.47	54.56	7.42	-0.22	11.94	-0.21	25.61	-0.15	
19	83182	0.79	0.50	0.71	0.11	79.11	6.89	-0.38	10.50	-0.21	3.39	-0.24	
20	83182	0.81	0.47	0.68	0.25	81.45	4.56	-0.29	5.20	-0.25	8.53	-0.23	
21	83182	0.60	0.34	0.43	0.21	59.81	24.78	-0.11	3.16	-0.28	12.04	-0.21	
22	83182	0.54	0.42	0.53	0.38	53.56	17.27	-0.19	11.37	-0.33	17.42	-0.08	
23	83182	0.64	0.39	0.50	0.46	63.77	11.03	-0.22	12.88	-0.17	11.86	-0.19	
24	83182	0.89	0.47	0.78	0.47	88.77	6.91	-0.37	2.05	-0.19	1.79	-0.20	
25	83182	0.37	0.18	0.23	0.15	36.81	11.13	-0.25	21.18	0.03	30.73	-0.04	
26	83182	0.64	0.49	0.63	0.28	64.11	20.60	-0.29	6.85	-0.30	8.16	-0.14	
27	83182	0.74	0.42	0.57	0.64	74.29	6.43	-0.25	6.38	-0.27	12.26	-0.17	
28	83182	0.54	0.43	0.54	1.02	53.56	12.76	-0.18	11.46	-0.32	21.19	-0.12	
29	83182	0.77	0.51	0.70	0.34	77.01	8.06	-0.30	5.07	-0.27	9.52	-0.24	
30	83182	0.70	0.52	0.68	0.32	69.68	5.39	-0.30	6.68	-0.24	17.92	-0.28	
31	83182	0.72	0.51	0.69	0.32	72.16	8.55	-0.28	10.86	-0.26	8.11	-0.25	
32	83182	0.92	0.46	0.85	0.05	92.27	2.62	-0.28	2.78	-0.26	2.27	-0.24	
33	83182	0.78	0.52	0.73	0.12	78.47	8.02	-0.31	10.13	-0.27	3.24	-0.27	
34	83182	0.68	0.35	0.46	0.35	68.25	13.45	-0.21	7.07	-0.29	10.87	-0.05	
35	83182	0.80	0.52	0.74	0.63	80.33	6.61	-0.28	6.18	-0.28	6.25	-0.28	
36	83182	0.87	0.42	0.67	0.17	87.43	2.92	-0.26	6.98	-0.24	2.49	-0.20	
37	83182	0.73	0.35	0.47	0.31	72.76	6.71	-0.17	5.12	-0.18	15.09	-0.20	
38	83182	0.44	0.37	0.47	0.61	44.49	19.69	-0.30	17.82	-0.08	17.38	-0.09	
39	83182	0.48	0.48	0.60	0.94	47.93	6.48	-0.26	31.07	-0.19	13.56	-0.25	
40	83182	0.58	0.38	0.48	1.33	58.21	20.21	-0.13	13.51	-0.25	6.72	-0.20	

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.8 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading CRT Grade 3**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	83182	0.67	0.52	0.68	0.85	67.18	7.36	-0.29	13.09	-0.27	11.50	-0.22
42	83182	0.71	0.34	0.45	0.23	71.04	11.60	-0.31	2.16	-0.24	14.95	-0.05
43	83182	0.43	0.30	0.37	0.20	42.89	8.34	-0.20	7.32	-0.21	41.23	-0.07
44	83182	0.62	0.37	0.47	0.45	61.61	6.29	-0.23	11.78	-0.26	19.87	-0.09
45	83182	0.49	0.51	0.64	0.39	48.72	16.48	-0.39	18.95	-0.12	15.45	-0.17
46	83182	0.59	0.44	0.56	1.00	59.39	13.96	-0.17	13.93	-0.26	11.70	-0.19
47	83182	0.59	0.49	0.62	0.22	58.84	7.33	-0.34	27.72	-0.22	5.88	-0.22
48	83182	0.66	0.57	0.74	0.35	66.37	10.70	-0.29	12.17	-0.33	10.39	-0.23
49	83182	0.56	0.50	0.63	0.97	56.38	19.94	-0.26	11.55	-0.19	11.15	-0.26
50	83182	0.65	0.46	0.59	0.37	65.04	5.63	-0.29	15.75	-0.21	13.19	-0.21
51	83182	0.69	0.54	0.70	0.18	69.24	12.66	-0.23	10.03	-0.30	7.87	-0.29
52	83182	0.67	0.56	0.73	0.42	66.68	11.76	-0.27	10.07	-0.33	11.06	-0.24
53	83182	0.47	0.33	0.42	0.72	46.95	22.15	-0.07	15.77	-0.15	14.39	-0.21
54	83182	0.67	0.39	0.51	0.82	66.82	10.63	-0.20	15.74	-0.14	5.98	-0.27

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.9**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading CRT Grade 4**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	81580	0.85	0.45	0.69	0.05	85.19	10.16	-0.34	1.73	-0.19	2.85	-0.19	
2	81580	0.71	0.30	0.40	0.04	71.43	19.09	-0.10	5.36	-0.26	4.08	-0.20	
3	81580	0.64	0.49	0.63	0.06	64.49	18.55	-0.23	3.85	-0.25	13.04	-0.28	
4	81580	0.55	0.30	0.37	0.11	54.99	10.09	-0.19	29.60	-0.09	5.20	-0.21	
5	81580	0.81	0.52	0.75	0.07	80.67	5.25	-0.31	8.32	-0.25	5.67	-0.29	
6	81580	0.70	0.32	0.43	0.08	70.03	13.82	-0.10	5.36	-0.23	10.70	-0.20	
7	81580	0.64	0.51	0.65	0.21	64.23	8.24	-0.31	16.08	-0.23	11.23	-0.22	
8	81580	0.86	0.48	0.74	0.06	85.94	4.52	-0.27	4.76	-0.26	4.72	-0.25	
9	81580	0.29	0.20	0.27	0.08	29.38	23.36	-0.05	34.94	-0.08	12.22	-0.09	
10	81580	0.61	0.23	0.29	0.07	60.87	3.95	-0.28	4.30	-0.27	30.80	0.00	
11	81580	0.77	0.53	0.73	0.10	76.76	5.47	-0.28	9.97	-0.29	7.69	-0.27	
12	81580	0.75	0.39	0.53	0.11	74.90	5.19	-0.30	3.88	-0.29	15.91	-0.12	
13	81580	0.70	0.45	0.59	0.11	69.65	11.46	-0.28	4.10	-0.29	14.68	-0.16	
14	81580	0.88	0.51	0.82	0.07	87.53	3.98	-0.31	4.62	-0.29	3.80	-0.24	
15	81580	0.68	0.28	0.37	0.10	68.49	5.10	-0.18	20.42	-0.11	5.87	-0.19	
16	81580	0.78	0.50	0.71	0.11	77.88	10.70	-0.27	4.27	-0.28	7.02	-0.27	
17	81580	0.77	0.44	0.62	0.10	77.29	12.74	-0.20	5.13	-0.28	4.71	-0.27	
18	81580	0.90	0.50	0.84	0.12	89.74	2.85	-0.28	3.65	-0.25	3.62	-0.30	
19	81580	0.52	0.38	0.48	0.34	52.43	9.70	-0.20	16.88	-0.25	20.64	-0.08	
20	81580	0.75	0.47	0.65	0.02	75.48	7.97	-0.25	12.60	-0.27	3.92	-0.24	
21	81580	0.86	0.46	0.72	0.02	85.88	3.41	-0.23	4.47	-0.27	6.20	-0.26	
22	81580	0.79	0.48	0.67	0.04	79.29	5.58	-0.23	10.35	-0.26	4.71	-0.29	
23	81580	0.59	0.40	0.51	0.07	58.57	20.19	-0.19	8.83	-0.25	12.30	-0.15	
24	81580	0.65	0.44	0.56	0.04	65.19	11.97	-0.16	7.12	-0.17	15.64	-0.31	
25	81580	0.76	0.36	0.50	0.02	76.26	6.83	-0.29	13.75	-0.11	3.14	-0.23	
26	81580	0.66	0.45	0.58	0.07	65.54	16.25	-0.22	4.71	-0.28	13.40	-0.21	
27	81580	0.56	0.36	0.45	0.09	55.92	3.82	-0.30	6.17	-0.27	33.96	-0.12	
28	81580	0.89	0.51	0.86	0.08	89.32	3.90	-0.30	4.22	-0.29	2.46	-0.26	
29	81580	0.79	0.56	0.79	0.07	78.67	12.05	-0.36	5.75	-0.29	3.43	-0.25	
30	81580	0.76	0.59	0.80	0.08	75.91	8.16	-0.25	7.15	-0.31	8.69	-0.36	
31	81580	0.73	0.61	0.82	0.05	72.77	7.34	-0.25	9.96	-0.30	9.86	-0.38	
32	81580	0.77	0.39	0.54	0.08	77.32	12.58	-0.21	6.66	-0.20	3.34	-0.24	
33	81580	0.71	0.54	0.72	0.09	71.08	10.62	-0.23	6.30	-0.33	11.87	-0.29	
34	81580	0.60	0.56	0.71	0.10	59.96	7.96	-0.38	21.87	-0.26	10.11	-0.21	
35	81580	0.72	0.52	0.70	0.03	71.86	5.68	-0.30	9.71	-0.26	12.72	-0.27	
36	81580	0.89	0.47	0.77	0.02	88.65	4.02	-0.22	3.99	-0.30	3.30	-0.26	
37	81580	0.69	0.29	0.39	0.03	68.89	3.04	-0.21	14.40	-0.10	13.60	-0.18	
38	81580	0.43	0.21	0.27	0.09	43.01	9.32	-0.12	17.97	-0.24	29.56	0.05	
39	81580	0.72	0.50	0.67	0.05	71.99	14.17	-0.25	7.07	-0.27	6.71	-0.28	
40	81580	0.79	0.54	0.76	0.00	79.03	9.83	-0.30	7.33	-0.29	3.78	-0.29	

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.9 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading CRT Grade 4**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	81580	0.78	0.54	0.76	0.02	77.82	4.68	-0.34	10.83	-0.32	6.63	-0.21
42	81580	0.65	0.44	0.56	0.05	64.90	11.13	-0.20	6.88	-0.28	17.03	-0.20
43	81580	0.75	0.54	0.73	0.07	74.68	6.30	-0.30	7.76	-0.29	11.13	-0.26
44	81580	0.60	0.51	0.65	0.05	60.34	8.36	-0.28	8.98	-0.29	22.25	-0.21
45	81580	0.70	0.51	0.68	0.05	69.68	13.02	-0.28	7.31	-0.25	9.92	-0.26
46	81580	0.73	0.53	0.72	0.04	73.40	5.71	-0.30	15.81	-0.31	4.98	-0.24
47	81580	0.56	0.50	0.63	0.06	56.41	11.99	-0.28	10.46	-0.27	21.05	-0.18
48	81580	0.40	0.22	0.27	0.09	39.74	16.25	-0.15	16.36	-0.11	27.53	-0.02
49	81580	0.73	0.42	0.57	0.05	72.95	10.16	-0.23	10.15	-0.23	6.68	-0.20
50	81580	0.87	0.48	0.76	0.17	87.47	4.86	-0.26	3.44	-0.26	4.05	-0.27
51	81580	0.83	0.38	0.57	0.03	83.30	4.86	-0.30	8.46	-0.11	3.34	-0.25
52	81580	0.87	0.56	0.88	0.06	86.64	4.69	-0.28	5.38	-0.34	3.20	-0.30
53	81580	0.85	0.56	0.87	0.09	85.30	4.70	-0.32	5.82	-0.30	4.05	-0.30
54	81580	0.77	0.51	0.71	0.06	77.00	6.70	-0.33	12.87	-0.25	3.34	-0.26

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.10**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading CRT Grade 5**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	81265	0.76	0.42	0.58	0.04	76.13	6.69	-0.30	13.15	-0.19	3.99	-0.21	
2	81265	0.92	0.33	0.61	0.02	92.06	3.10	-0.17	1.63	-0.16	3.19	-0.23	
3	81265	0.82	0.47	0.68	0.04	81.84	3.17	-0.24	8.59	-0.27	6.34	-0.25	
4	81265	0.59	0.21	0.27	0.03	58.73	12.62	-0.22	9.82	-0.20	18.79	0.08	
5	81265	0.84	0.46	0.70	0.01	84.06	4.64	-0.26	5.97	-0.23	5.32	-0.27	
6	81265	0.62	0.42	0.53	0.03	62.41	17.32	-0.26	7.63	-0.25	12.59	-0.11	
7	81265	0.83	0.33	0.50	0.02	83.40	6.80	-0.15	5.55	-0.15	4.21	-0.25	
8	81265	0.74	0.42	0.56	0.02	73.87	15.25	-0.25	3.83	-0.22	7.02	-0.20	
9	81265	0.60	0.36	0.46	0.08	59.63	15.10	-0.24	3.96	-0.26	21.21	-0.10	
10	81265	0.67	0.43	0.56	0.04	67.49	7.66	-0.27	7.52	-0.25	17.29	-0.17	
11	81265	0.83	0.48	0.71	0.05	83.09	4.99	-0.28	5.86	-0.24	6.00	-0.26	
12	81265	0.62	0.40	0.50	0.18	61.75	10.63	-0.26	18.38	-0.15	9.05	-0.18	
13	81265	0.74	0.54	0.73	0.05	74.35	8.42	-0.31	7.39	-0.29	9.80	-0.25	
14	81265	0.60	0.48	0.61	0.06	60.37	12.95	-0.27	11.97	-0.24	14.63	-0.19	
15	81265	0.63	0.53	0.68	0.11	63.40	11.18	-0.30	14.68	-0.23	10.60	-0.25	
16	81265	0.69	0.42	0.55	0.11	68.50	15.06	-0.18	6.71	-0.26	9.59	-0.22	
17	81265	0.59	0.47	0.60	0.09	58.66	19.84	-0.14	11.24	-0.34	10.16	-0.22	
18	81265	0.61	0.33	0.42	0.23	61.36	14.77	-0.12	10.44	-0.23	13.19	-0.13	
19	81265	0.55	0.43	0.54	0.09	54.71	25.09	-0.15	9.83	-0.28	10.26	-0.21	
20	81265	0.59	0.29	0.37	0.12	59.19	5.36	-0.29	18.00	-0.11	17.31	-0.09	
21	81265	0.65	0.50	0.64	0.16	64.97	10.12	-0.29	14.78	-0.21	9.96	-0.23	
22	81265	0.74	0.56	0.76	0.17	74.19	10.63	-0.30	8.66	-0.27	6.35	-0.31	
23	81265	0.74	0.41	0.55	0.01	73.53	16.79	-0.27	3.00	-0.19	6.67	-0.19	
24	81265	0.69	0.45	0.58	0.02	69.14	1.83	-0.22	23.80	-0.29	5.20	-0.24	
25	81265	0.84	0.47	0.71	0.01	84.14	8.81	-0.40	3.98	-0.14	3.05	-0.19	
26	81265	0.51	0.22	0.27	0.06	50.72	7.90	-0.14	10.27	-0.17	31.05	-0.04	
27	81265	0.81	0.47	0.68	0.08	81.08	5.74	-0.23	7.88	-0.30	5.21	-0.23	
28	81265	0.76	0.34	0.47	0.03	75.60	2.93	-0.22	17.02	-0.18	4.40	-0.20	
29	81265	0.70	0.51	0.68	0.05	70.10	17.43	-0.25	6.49	-0.30	5.92	-0.27	
30	81265	0.74	0.53	0.71	0.02	73.64	11.66	-0.28	7.73	-0.26	6.95	-0.28	
31	81265	0.56	0.27	0.34	0.03	56.23	27.92	-0.02	9.98	-0.21	5.83	-0.27	
32	81265	0.58	0.31	0.39	0.03	58.11	16.13	-0.14	6.86	-0.24	18.86	-0.10	
33	81265	0.86	0.39	0.61	0.05	86.29	8.28	-0.21	2.73	-0.23	2.65	-0.23	
34	81265	0.67	0.39	0.51	0.08	66.90	7.36	-0.20	16.51	-0.20	9.12	-0.20	
35	81265	0.67	0.47	0.61	0.07	67.41	6.15	-0.25	5.30	-0.25	21.07	-0.25	
36	81265	0.65	0.41	0.53	0.06	65.38	5.25	-0.27	23.00	-0.15	6.29	-0.29	
37	81265	0.66	0.41	0.53	0.07	66.20	13.06	-0.25	13.95	-0.16	6.70	-0.22	
38	81265	0.70	0.57	0.75	0.03	70.04	5.73	-0.28	19.48	-0.36	4.70	-0.26	
39	81265	0.60	0.23	0.29	0.07	60.21	9.73	-0.09	23.85	-0.05	6.13	-0.26	
40	81265	0.57	0.45	0.57	0.08	56.69	19.88	-0.13	7.57	-0.30	15.76	-0.25	

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.10 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading CRT Grade 5**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	81265	0.40	0.28	0.36	0.06	40.22	15.59	-0.17	19.03	-0.13	25.08	-0.06	
42	81265	0.71	0.49	0.66	0.02	71.28	4.56	-0.15	12.21	-0.39	11.93	-0.20	
43	81265	0.59	0.28	0.36	0.01	59.11	17.79	-0.26	13.13	0.00	9.93	-0.12	
44	81265	0.58	0.23	0.29	0.12	57.94	9.83	-0.14	11.71	-0.08	20.38	-0.12	
45	81265	0.58	0.31	0.39	0.02	57.93	12.45	-0.13	7.82	-0.24	21.77	-0.11	
46	81265	0.87	0.41	0.65	0.03	86.97	6.31	-0.23	3.18	-0.24	3.50	-0.21	
47	81265	0.51	0.33	0.41	0.05	50.71	14.69	-0.20	10.66	-0.22	23.86	-0.06	
48	81265	0.81	0.50	0.72	0.04	81.09	9.78	-0.27	3.87	-0.27	5.21	-0.28	
49	81265	0.54	0.38	0.48	0.18	53.87	30.44	-0.11	9.14	-0.24	6.36	-0.28	
50	81265	0.85	0.53	0.81	0.02	84.73	5.66	-0.33	5.69	-0.28	3.89	-0.25	
51	81265	0.77	0.54	0.74	0.03	76.70	4.78	-0.29	8.08	-0.31	10.39	-0.26	
52	81265	0.72	0.59	0.78	0.06	72.02	11.32	-0.32	8.01	-0.29	8.56	-0.29	
53	81265	0.61	0.37	0.47	0.08	61.33	10.53	-0.30	7.70	-0.30	20.33	-0.02	
54	81265	0.66	0.54	0.70	0.16	65.91	9.14	-0.29	16.13	-0.26	8.64	-0.27	

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.



**Table 6.4.11**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading CRT Grade 6**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	81583	0.72	0.41	0.54	0.02	71.65	7.05	-0.21	6.58	-0.26	14.70	-0.18
2	81583	0.92	0.43	0.79	0.01	92.01	2.58	-0.24	3.17	-0.27	2.21	-0.22
3	81583	0.73	0.36	0.48	0.02	72.77	15.28	-0.21	6.71	-0.22	5.21	-0.13
4	81583	0.91	0.45	0.78	0.02	90.74	2.46	-0.26	3.86	-0.24	2.91	-0.25
5	81583	0.84	0.49	0.74	0.04	84.21	8.14	-0.28	4.63	-0.27	2.97	-0.26
6	81583	0.76	0.55	0.76	0.03	76.09	5.82	-0.29	7.33	-0.32	10.71	-0.27
7	81583	0.73	0.45	0.61	0.08	73.22	6.73	-0.24	15.81	-0.24	4.15	-0.26
8	81583	0.82	0.43	0.63	0.01	82.44	8.01	-0.34	8.18	-0.19	1.35	-0.15
9	81583	0.89	0.33	0.55	0.02	88.83	2.88	-0.20	5.47	-0.16	2.79	-0.20
10	81583	0.78	0.32	0.45	0.04	78.26	2.41	-0.24	3.07	-0.17	16.21	-0.18
11	81583	0.92	0.38	0.70	0.06	92.40	2.79	-0.20	2.76	-0.23	1.98	-0.21
12	81583	0.86	0.48	0.75	0.03	86.42	4.29	-0.26	4.45	-0.25	4.80	-0.29
13	81583	0.72	0.49	0.65	0.05	72.20	10.36	-0.24	13.17	-0.30	4.20	-0.22
14	81583	0.76	0.57	0.78	0.06	75.79	8.18	-0.32	8.02	-0.28	7.95	-0.29
15	81583	0.58	0.36	0.46	0.06	57.80	8.11	-0.24	21.98	-0.08	12.02	-0.24
16	81583	0.71	0.48	0.64	0.07	71.25	13.83	-0.27	5.98	-0.29	8.86	-0.19
17	81583	0.46	0.34	0.42	0.05	45.57	6.28	-0.30	36.75	0.00	11.34	-0.30
18	81583	0.77	0.54	0.74	0.09	76.58	6.66	-0.26	10.30	-0.34	6.36	-0.24
19	81583	0.76	0.57	0.78	0.07	75.79	6.37	-0.29	8.15	-0.29	9.60	-0.31
20	81583	0.66	0.42	0.54	0.07	65.96	7.04	-0.24	22.51	-0.20	4.40	-0.26
21	81583	0.86	0.44	0.69	0.07	86.19	4.52	-0.25	4.28	-0.27	4.93	-0.21
22	81583	0.67	0.28	0.36	0.02	66.99	20.09	-0.02	4.97	-0.23	7.91	-0.27
23	81583	0.79	0.37	0.52	0.06	79.16	5.96	-0.18	9.14	-0.21	5.68	-0.20
24	81583	0.88	0.42	0.69	0.09	88.23	2.80	-0.24	6.89	-0.26	1.97	-0.22
25	81583	0.81	0.41	0.60	0.02	81.29	9.15	-0.20	7.22	-0.28	2.32	-0.20
26	81583	0.70	0.50	0.65	0.02	69.99	13.28	-0.28	11.58	-0.27	5.11	-0.20
27	81583	0.62	0.31	0.40	0.03	61.94	10.21	-0.19	11.18	-0.19	16.62	-0.09
28	81583	0.75	0.47	0.65	0.05	74.95	8.09	-0.30	11.93	-0.24	4.98	-0.21
29	81583	0.53	0.34	0.43	0.06	52.80	21.77	-0.11	13.68	-0.16	11.69	-0.22
30	81583	0.71	0.45	0.60	0.05	71.32	6.61	-0.25	13.52	-0.22	8.49	-0.25
31	81583	0.40	0.34	0.43	0.12	39.91	7.73	-0.18	36.35	-0.16	15.89	-0.11
32	81583	0.48	0.30	0.38	0.02	47.52	24.01	-0.04	17.27	-0.18	11.17	-0.21
33	81583	0.65	0.50	0.64	0.05	64.94	12.86	-0.36	13.92	-0.19	8.21	-0.19
34	81583	0.52	0.34	0.43	0.04	51.75	29.98	-0.06	12.40	-0.23	5.80	-0.28
35	81583	0.64	0.50	0.64	0.05	64.05	7.34	-0.27	15.75	-0.24	12.79	-0.24
36	81583	0.69	0.40	0.53	0.08	69.40	11.28	-0.22	10.66	-0.19	8.57	-0.20
37	81583	0.71	0.45	0.60	0.02	70.59	6.31	-0.22	14.53	-0.19	8.53	-0.30
38	81583	0.71	0.23	0.30	0.02	70.56	4.77	-0.13	7.42	-0.27	17.21	-0.01
39	81583	0.50	0.24	0.30	0.05	49.82	7.02	-0.27	37.18	0.01	5.92	-0.25
40	81583	0.67	0.40	0.52	0.03	67.31	13.20	-0.21	9.25	-0.21	10.21	-0.19

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.11 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading CRT Grade 6**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	81583	0.54	0.43	0.54	0.04	54.34	21.35	-0.13	7.22	-0.30	17.04	-0.22
42	81583	0.48	0.32	0.40	0.06	47.79	7.43	-0.30	18.45	-0.20	26.24	-0.01
43	81583	0.47	0.31	0.39	0.04	47.34	16.24	-0.14	14.87	-0.20	21.48	-0.08
44	81583	0.55	0.38	0.47	0.08	55.17	13.79	-0.19	18.12	-0.17	12.82	-0.16
45	81583	0.47	0.27	0.34	0.19	46.53	16.06	-0.16	10.04	-0.15	27.16	-0.07
46	81583	0.75	0.44	0.60	0.03	74.51	9.18	-0.24	8.66	-0.25	7.60	-0.20
47	81583	0.76	0.49	0.67	0.04	75.94	4.78	-0.26	10.69	-0.31	8.54	-0.21
48	81583	0.68	0.36	0.47	0.06	67.71	5.20	-0.25	22.35	-0.13	4.66	-0.27
49	81583	0.70	0.53	0.70	0.07	69.82	11.61	-0.29	8.99	-0.29	9.48	-0.23
50	81583	0.45	0.29	0.36	0.09	45.05	14.60	-0.16	19.55	-0.18	20.70	-0.04
51	81583	0.64	0.38	0.49	0.06	63.90	17.60	-0.17	7.31	-0.30	11.12	-0.13
52	81583	0.74	0.60	0.81	0.07	74.50	8.17	-0.28	7.79	-0.30	9.45	-0.36
53	81583	0.43	0.33	0.41	0.08	43.46	31.09	-0.10	10.35	-0.21	14.99	-0.14
54	81583	0.52	0.38	0.48	0.11	52.20	19.55	-0.19	15.13	-0.16	13.01	-0.16

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.12**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading CRT Grade 7**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	80820	0.91	0.33	0.57	0.02	90.97	3.16	-0.15	2.30	-0.15	3.55	-0.24	
2	80820	0.60	0.29	0.37	0.02	60.00	33.33	-0.13	4.43	-0.26	2.21	-0.19	
3	80820	0.83	0.46	0.68	0.01	83.42	12.67	-0.33	1.62	-0.20	2.27	-0.22	
4	80820	0.73	0.47	0.64	0.01	72.81	5.76	-0.29	6.94	-0.29	14.48	-0.20	
5	80820	0.75	0.43	0.59	0.01	74.60	3.94	-0.24	16.63	-0.28	4.81	-0.17	
6	80820	0.67	0.46	0.60	0.02	67.13	8.21	-0.26	5.68	-0.17	18.94	-0.26	
7	80820	0.86	0.45	0.70	0.02	85.87	4.01	-0.29	3.41	-0.22	6.68	-0.24	
8	80820	0.61	0.40	0.50	0.02	60.63	25.09	-0.15	8.12	-0.31	6.13	-0.19	
9	80820	0.76	0.42	0.58	0.02	76.40	6.66	-0.31	3.28	-0.26	13.64	-0.16	
10	80820	0.77	0.46	0.64	0.10	76.52	13.59	-0.26	6.92	-0.28	2.86	-0.20	
11	80820	0.84	0.42	0.64	0.02	83.92	3.81	-0.24	5.75	-0.25	6.49	-0.20	
12	80820	0.75	0.36	0.48	0.03	75.12	5.53	-0.22	8.36	-0.22	10.96	-0.13	
13	80820	0.46	0.31	0.39	0.02	46.12	3.96	-0.21	7.01	-0.25	42.89	-0.10	
14	80820	0.79	0.42	0.60	0.06	79.32	8.94	-0.24	4.08	-0.29	7.60	-0.17	
15	80820	0.69	0.41	0.54	0.04	69.35	5.97	-0.21	15.96	-0.18	8.67	-0.26	
16	80820	0.90	0.29	0.49	0.03	89.73	3.48	-0.16	2.45	-0.16	4.30	-0.16	
17	80820	0.60	0.37	0.48	0.27	60.45	6.68	-0.30	6.14	-0.30	26.46	-0.07	
18	80820	0.61	0.38	0.49	0.04	60.91	14.79	-0.14	15.93	-0.23	8.33	-0.20	
19	80820	0.57	0.39	0.49	0.07	57.44	16.63	-0.23	19.44	-0.11	6.41	-0.27	
20	80820	0.52	0.29	0.36	0.08	52.44	28.82	0.01	6.34	-0.30	12.32	-0.24	
21	80820	0.71	0.50	0.67	0.09	71.48	6.02	-0.27	14.29	-0.28	8.11	-0.24	
22	80820	0.66	0.44	0.56	0.07	66.41	20.15	-0.13	7.49	-0.30	5.87	-0.31	
23	80820	0.55	0.25	0.31	0.11	55.40	6.48	-0.23	26.57	-0.07	11.44	-0.10	
24	80820	0.71	0.46	0.61	0.02	70.81	11.12	-0.28	4.90	-0.17	13.14	-0.25	
25	80820	0.68	0.26	0.34	0.02	68.44	12.24	-0.11	14.06	-0.16	5.24	-0.13	
26	80820	0.82	0.44	0.65	0.03	81.64	8.49	-0.22	4.57	-0.27	5.25	-0.25	
27	80820	0.78	0.30	0.42	0.05	78.21	7.00	-0.10	6.38	-0.22	8.35	-0.16	
28	80820	0.52	0.37	0.46	0.35	51.50	29.37	-0.12	7.25	-0.29	11.53	-0.16	
29	80820	0.69	0.50	0.66	0.05	68.81	16.54	-0.21	8.96	-0.32	5.62	-0.28	
30	80820	0.65	0.52	0.67	0.05	64.84	9.10	-0.27	6.23	-0.29	19.77	-0.26	
31	80820	0.63	0.42	0.54	0.24	62.70	8.31	-0.30	10.84	-0.29	17.90	-0.07	
32	80820	0.78	0.49	0.68	0.03	77.73	5.51	-0.28	11.53	-0.27	5.21	-0.24	
33	80820	0.58	0.36	0.45	0.05	57.80	21.76	-0.11	10.07	-0.22	10.32	-0.21	
34	80820	0.71	0.46	0.61	0.05	70.64	10.45	-0.26	7.50	-0.23	11.34	-0.22	
35	80820	0.68	0.51	0.67	0.05	68.03	8.56	-0.31	16.65	-0.22	6.70	-0.27	
36	80820	0.34	0.25	0.33	0.06	33.71	15.06	-0.25	16.92	-0.15	34.24	0.06	
37	80820	0.56	0.35	0.45	0.06	56.28	18.15	-0.08	12.24	-0.16	13.27	-0.27	
38	80820	0.69	0.34	0.44	0.03	68.94	14.33	-0.15	5.78	-0.23	10.92	-0.15	
39	80820	0.49	0.32	0.40	0.06	49.07	16.24	-0.12	9.14	-0.22	25.47	-0.11	
40	80820	0.48	0.23	0.28	0.07	47.68	15.86	-0.01	13.75	-0.25	22.62	-0.05	

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.12 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading CRT Grade 7**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	80820	0.72	0.44	0.59	0.05	72.28	8.91	-0.21	9.41	-0.25	9.33	-0.22
42	80820	0.75	0.45	0.61	0.03	74.96	12.02	-0.28	8.36	-0.23	4.62	-0.19
43	80820	0.71	0.36	0.48	0.04	71.34	4.53	-0.24	17.39	-0.18	6.69	-0.18
44	80820	0.79	0.44	0.62	0.04	78.81	10.10	-0.15	5.81	-0.27	5.23	-0.31
45	80820	0.68	0.38	0.50	0.05	68.03	12.58	-0.16	12.01	-0.22	7.32	-0.20
46	80820	0.65	0.46	0.59	0.05	64.94	9.57	-0.23	5.54	-0.28	19.88	-0.22
47	80820	0.78	0.54	0.76	0.04	78.25	9.95	-0.30	7.45	-0.31	4.31	-0.26
48	80820	0.50	0.40	0.50	0.05	49.80	18.35	-0.24	19.25	-0.14	12.54	-0.15
49	80820	0.65	0.44	0.57	0.05	64.88	11.14	-0.24	17.21	-0.17	6.70	-0.30
50	80820	0.75	0.51	0.69	0.04	75.39	6.24	-0.30	11.82	-0.20	6.50	-0.32
51	80820	0.58	0.41	0.52	0.07	58.08	21.82	-0.12	10.99	-0.23	9.03	-0.27
52	80820	0.75	0.49	0.67	0.05	74.73	11.34	-0.29	8.54	-0.31	5.34	-0.15
53	80820	0.75	0.44	0.60	0.05	74.85	4.72	-0.29	9.94	-0.25	10.44	-0.19
54	80820	0.58	0.39	0.49	0.05	58.35	10.00	-0.26	11.36	-0.15	20.22	-0.16

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.13**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading CRT Grade 8**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	80525	0.88	0.30	0.49	0.02	88.30	1.06	-0.15	4.28	-0.11	6.33	-0.24
2	80525	0.60	0.29	0.37	0.02	59.84	5.27	-0.28	30.51	-0.10	4.35	-0.16
3	80525	0.63	0.40	0.52	0.05	63.46	8.45	-0.24	13.23	-0.15	14.80	-0.21
4	80525	0.46	0.32	0.40	0.03	46.50	5.63	-0.17	38.10	-0.23	9.74	-0.02
5	80525	0.72	0.36	0.48	0.04	72.35	13.27	-0.22	8.61	-0.16	5.73	-0.18
6	80525	0.50	0.25	0.32	0.03	50.42	21.47	-0.02	17.75	-0.13	10.32	-0.22
7	80525	0.81	0.32	0.47	0.02	80.91	9.71	-0.18	7.72	-0.21	1.63	-0.14
8	80525	0.56	0.25	0.31	0.09	56.18	15.91	-0.09	8.08	-0.25	19.74	-0.05
9	80525	0.68	0.33	0.42	0.04	67.62	20.92	-0.09	6.52	-0.23	4.89	-0.26
10	80525	0.72	0.46	0.61	0.04	71.84	9.46	-0.26	8.58	-0.26	10.07	-0.20
11	80525	0.63	0.43	0.54	0.05	62.58	15.57	-0.12	8.80	-0.29	12.98	-0.24
12	80525	0.58	0.41	0.52	0.05	58.30	34.50	-0.25	3.45	-0.25	3.70	-0.19
13	80525	0.55	0.39	0.49	0.02	55.04	19.14	-0.16	15.84	-0.17	9.96	-0.21
14	80525	0.81	0.46	0.66	0.04	80.71	5.37	-0.28	10.15	-0.26	3.72	-0.22
15	80525	0.45	0.38	0.48	0.09	45.46	7.60	-0.27	26.03	-0.09	20.81	-0.20
16	80525	0.78	0.44	0.62	0.05	77.86	6.84	-0.30	6.67	-0.26	8.58	-0.15
17	80525	0.78	0.44	0.61	0.03	78.28	3.29	-0.23	8.94	-0.25	9.46	-0.23
18	80525	0.64	0.39	0.50	0.06	63.51	7.20	-0.24	19.80	-0.18	9.42	-0.17
19	80525	0.79	0.53	0.75	0.06	79.24	8.57	-0.28	5.84	-0.27	6.29	-0.29
20	80525	0.69	0.42	0.55	0.02	69.06	24.57	-0.26	3.86	-0.27	2.50	-0.21
21	80525	0.92	0.40	0.72	0.01	91.61	1.99	-0.22	4.12	-0.23	2.26	-0.23
22	80525	0.42	0.28	0.35	0.06	42.16	24.43	-0.04	17.21	-0.17	16.14	-0.15
23	80525	0.85	0.38	0.58	0.03	85.47	6.33	-0.24	4.55	-0.21	3.60	-0.17
24	80525	0.54	0.34	0.42	0.06	53.91	8.54	-0.20	5.24	-0.21	32.24	-0.14
25	80525	0.76	0.33	0.45	0.06	75.52	7.51	-0.18	13.86	-0.19	3.04	-0.15
26	80525	0.78	0.40	0.56	0.02	78.46	3.97	-0.19	8.93	-0.21	8.62	-0.24
27	80525	0.74	0.52	0.70	0.03	73.81	8.82	-0.24	10.72	-0.32	6.61	-0.25
28	80525	0.72	0.39	0.52	0.03	72.30	9.12	-0.16	4.84	-0.21	13.69	-0.23
29	80525	0.67	0.26	0.34	0.06	66.94	20.32	-0.08	5.68	-0.23	6.99	-0.14
30	80525	0.68	0.43	0.57	0.03	68.24	19.62	-0.19	5.44	-0.27	6.66	-0.27
31	80525	0.54	0.33	0.42	0.05	54.13	24.65	-0.13	13.00	-0.19	8.15	-0.17
32	80525	0.79	0.54	0.76	0.18	78.56	11.11	-0.34	6.07	-0.29	4.07	-0.23
33	80525	0.63	0.39	0.50	0.04	63.34	5.49	-0.29	17.15	-0.13	13.98	-0.21
34	80525	0.78	0.57	0.81	0.04	78.42	7.65	-0.27	7.09	-0.33	6.81	-0.32
35	80525	0.64	0.38	0.49	0.05	63.65	12.59	-0.26	15.89	-0.12	7.81	-0.21
36	80525	0.55	0.48	0.61	0.04	55.28	7.36	-0.29	28.51	-0.18	8.80	-0.29
37	80525	0.45	0.29	0.37	0.03	45.03	18.80	-0.18	14.73	-0.21	21.40	0.01
38	80525	0.71	0.45	0.60	0.04	71.38	8.66	-0.28	14.33	-0.22	5.59	-0.20
39	80525	0.55	0.31	0.40	0.05	55.09	11.17	-0.24	7.35	-0.28	26.33	-0.01
40	80525	0.60	0.29	0.36	0.04	60.03	8.41	-0.22	5.47	-0.26	26.04	-0.04

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.13 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading CRT Grade 8**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	80525	0.51	0.40	0.50	0.09	50.67	10.45	-0.21	29.98	-0.12	8.80	-0.28
42	80525	0.83	0.43	0.63	0.07	82.89	5.29	-0.21	6.73	-0.21	5.02	-0.27
43	80525	0.41	0.29	0.36	0.06	40.82	14.87	-0.09	26.06	-0.14	18.19	-0.12
44	80525	0.60	0.39	0.50	0.31	59.88	11.74	-0.20	14.74	-0.27	13.32	-0.09
45	80525	0.56	0.24	0.30	0.03	56.46	5.18	-0.27	6.95	-0.22	31.36	0.00
46	80525	0.67	0.43	0.55	0.07	66.76	11.21	-0.21	9.38	-0.29	12.56	-0.15
47	80525	0.65	0.47	0.61	0.07	64.94	9.94	-0.24	14.46	-0.22	10.56	-0.26
48	80525	0.75	0.52	0.71	0.08	74.53	7.97	-0.30	5.34	-0.28	12.07	-0.25
49	80525	0.76	0.49	0.67	0.06	76.24	5.68	-0.24	8.77	-0.25	9.24	-0.27
50	80525	0.61	0.42	0.53	0.10	61.03	18.45	-0.18	12.45	-0.21	7.97	-0.23
51	80525	0.70	0.50	0.66	0.04	70.29	7.32	-0.30	9.71	-0.25	12.63	-0.23
52	80525	0.67	0.46	0.60	0.04	67.24	6.44	-0.23	18.71	-0.24	7.54	-0.25
53	80525	0.67	0.50	0.65	0.05	66.55	11.09	-0.24	9.30	-0.30	12.99	-0.21
54	80525	0.71	0.44	0.59	0.06	70.75	9.71	-0.22	7.36	-0.25	12.11	-0.21

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.14**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading CRT High School**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	75462	0.70	0.43	0.56	0.07	69.72	12.01	-0.21	8.47	-0.22	9.71	-0.22	
2	75462	0.68	0.34	0.45	0.05	68.11	13.85	-0.27	13.03	-0.07	4.97	-0.19	
3	75462	0.83	0.35	0.51	0.02	83.15	9.24	-0.27	1.51	-0.16	6.07	-0.13	
4	75462	0.73	0.38	0.51	0.02	73.12	4.83	-0.32	3.30	-0.16	18.71	-0.18	
5	75462	0.64	0.30	0.39	0.06	63.72	19.11	-0.13	10.22	-0.18	6.89	-0.16	
6	75462	0.51	0.45	0.56	0.07	50.69	21.18	-0.25	4.79	-0.28	23.26	-0.15	
7	75462	0.83	0.35	0.51	0.04	83.33	3.70	-0.20	2.21	-0.16	10.71	-0.21	
8	75462	0.71	0.38	0.50	0.05	70.80	8.08	-0.25	16.28	-0.16	4.79	-0.21	
9	75462	0.75	0.26	0.36	0.09	74.58	1.64	-0.16	5.45	-0.16	18.23	-0.15	
10	75462	0.35	0.20	0.26	0.08	35.43	14.38	-0.03	30.45	-0.13	19.65	-0.06	
11	75462	0.68	0.35	0.46	0.03	68.26	20.67	-0.10	1.56	-0.16	9.48	-0.34	
12	75462	0.87	0.41	0.65	0.04	86.83	3.61	-0.21	7.67	-0.26	1.86	-0.23	
13	75462	0.37	0.19	0.25	0.08	37.07	45.83	0.04	6.21	-0.16	10.80	-0.24	
14	75462	0.58	0.35	0.44	0.07	57.52	4.78	-0.25	23.24	-0.17	14.39	-0.14	
15	75462	0.43	0.22	0.28	0.07	42.74	35.37	0.01	15.71	-0.23	6.09	-0.13	
16	75462	0.66	0.40	0.52	0.06	66.36	25.73	-0.25	5.39	-0.24	2.46	-0.16	
17	75462	0.54	0.36	0.46	0.06	54.25	14.08	-0.26	20.63	-0.07	10.98	-0.19	
18	75462	0.53	0.39	0.49	0.10	52.80	9.79	-0.32	19.46	-0.15	17.85	-0.11	
19	75462	0.64	0.45	0.58	0.10	63.81	14.18	-0.19	10.55	-0.22	11.35	-0.26	
20	75462	0.91	0.41	0.72	0.08	90.64	2.52	-0.22	3.52	-0.25	3.21	-0.22	
21	75462	0.68	0.53	0.69	0.07	67.99	6.35	-0.27	9.44	-0.30	16.15	-0.25	
22	75462	0.88	0.48	0.77	0.05	87.68	3.76	-0.25	4.22	-0.27	4.27	-0.26	
23	75462	0.76	0.53	0.73	0.07	75.91	14.51	-0.48	6.13	-0.18	3.37	-0.07	
24	75462	0.67	0.37	0.48	0.08	67.29	5.91	-0.29	4.83	-0.31	21.88	-0.09	
25	75462	0.66	0.42	0.54	0.08	65.82	14.35	-0.32	16.79	-0.11	2.95	-0.25	
26	75462	0.66	0.45	0.59	0.06	66.18	21.37	-0.28	10.09	-0.22	2.29	-0.22	
27	75462	0.87	0.50	0.78	0.04	86.62	4.76	-0.27	3.71	-0.29	4.87	-0.26	
28	75462	0.72	0.48	0.65	0.06	71.90	7.92	-0.38	7.28	-0.28	12.83	-0.12	
29	75462	0.88	0.38	0.62	0.06	87.84	6.92	-0.20	2.71	-0.24	2.46	-0.22	
30	75462	0.91	0.46	0.81	0.06	90.98	1.91	-0.23	3.15	-0.24	3.90	-0.30	
31	75462	0.57	0.38	0.48	0.06	57.38	15.13	-0.13	14.75	-0.18	12.68	-0.23	
32	75462	0.39	0.31	0.39	0.14	39.35	21.63	-0.15	36.29	-0.12	2.57	-0.18	
33	75462	0.59	0.51	0.64	0.08	59.16	16.81	-0.22	8.56	-0.26	15.38	-0.26	
34	75462	0.71	0.43	0.58	0.09	71.43	4.93	-0.24	12.43	-0.24	11.12	-0.20	
35	75462	0.76	0.41	0.56	0.07	75.60	5.63	-0.27	2.57	-0.23	16.12	-0.20	
36	75462	0.59	0.50	0.64	0.08	59.47	8.09	-0.19	15.05	-0.26	17.30	-0.27	
37	75462	0.47	0.30	0.38	0.16	46.94	26.87	-0.03	6.57	-0.28	19.46	-0.17	
38	75462	0.76	0.43	0.59	0.07	76.01	13.08	-0.23	6.83	-0.24	4.00	-0.22	
39	75462	0.71	0.32	0.42	0.08	71.14	4.90	-0.14	6.37	-0.27	17.52	-0.12	
40	75462	0.75	0.48	0.65	0.09	75.48	14.94	-0.26	2.98	-0.24	6.51	-0.28	

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.14 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading CRT High School**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%		%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	75462	0.67	0.16	0.21	0.09	66.94		2.29	-0.21	27.78	-0.03	2.89	-0.17
42	75462	0.57	0.42	0.53	0.11	56.86		17.45	-0.15	13.87	-0.18	11.71	-0.27
43	75462	0.66	0.47	0.60	0.07	65.66		10.70	-0.22	18.51	-0.29	5.06	-0.19
44	75462	0.32	0.29	0.38	0.11	31.59		9.65	-0.26	17.44	-0.15	41.21	0.00
45	75462	0.53	0.38	0.48	0.10	53.03		41.89	-0.23	2.21	-0.21	2.76	-0.25
46	75462	0.59	0.42	0.53	0.13	58.61		14.48	-0.20	22.21	-0.23	4.56	-0.21
47	75462	0.84	0.52	0.78	0.10	84.08		5.62	-0.29	6.13	-0.30	4.07	-0.26
48	75462	0.81	0.51	0.73	0.10	80.68		5.93	-0.31	6.66	-0.28	6.62	-0.22
49	75462	0.53	0.48	0.61	0.14	53.45		19.67	-0.17	17.01	-0.26	9.72	-0.25
50	75462	0.40	0.40	0.51	0.12	39.94		10.72	-0.27	32.18	-0.13	17.03	-0.13
51	75462	0.65	0.51	0.66	0.10	65.08		4.72	-0.27	21.42	-0.28	8.68	-0.25
52	75462	0.54	0.26	0.32	0.11	54.32		25.08	-0.11	6.11	-0.25	14.37	-0.06
53	75462	0.63	0.42	0.54	0.10	63.45		21.38	-0.11	6.90	-0.31	8.16	-0.28
54	75462	0.43	0.37	0.47	0.12	42.94		13.11	-0.21	36.43	-0.11	7.39	-0.22

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.



**Table 6.4.15**  
**2008 Spring AIMS Classical Item Analysis**  
**Science CRT Grade 4 Form A**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	39605	0.93	0.35	0.66	0.13	92.98	2.00	-0.19	2.38	-0.18	2.50	-0.22
2	39605	0.74	0.33	0.45	0.01	73.84	18.68	-0.14	4.25	-0.26	3.19	-0.21
3	39605	0.62	0.45	0.57	0.08	62.17	7.21	-0.24	19.50	-0.20	11.01	-0.24
4	39605	0.87	0.46	0.73	0.13	86.84	5.90	-0.28	3.35	-0.23	3.73	-0.26
5	39605	0.78	0.38	0.53	0.13	77.53	8.31	-0.15	8.80	-0.21	5.17	-0.25
6	39605	0.73	0.20	0.27	0.09	73.42	4.51	-0.08	20.27	-0.13	1.64	-0.15
7	39605	0.83	0.45	0.68	0.04	83.39	4.02	-0.20	6.62	-0.26	5.90	-0.28
8	39605	0.55	0.35	0.43	0.02	54.84	15.88	-0.16	11.64	-0.09	17.61	-0.22
9	39605	0.79	0.47	0.66	0.04	78.94	6.96	-0.24	7.53	-0.26	6.51	-0.23
10	39605	0.96	0.28	0.62	0.09	95.57	1.18	-0.16	1.24	-0.17	1.86	-0.15
11	39605	0.93	0.26	0.49	0.16	92.87	3.58	-0.11	2.09	-0.19	1.26	-0.17
12	39605	0.69	0.38	0.50	0.15	69.15	7.35	-0.22	8.77	-0.28	14.55	-0.11
13	39605	0.76	0.47	0.65	0.59	75.60	7.75	-0.30	8.69	-0.22	7.32	-0.21
14	39605	0.86	0.45	0.70	0.03	85.55	5.68	-0.26	3.85	-0.23	4.86	-0.25
15	39605	0.78	0.32	0.45	0.05	78.47	7.92	-0.11	7.68	-0.23	5.84	-0.18
16	39605	0.63	0.46	0.58	0.13	62.81	9.71	-0.21	12.03	-0.24	15.27	-0.22
17	39605	0.69	0.29	0.38	0.10	69.27	3.38	-0.24	23.32	-0.11	3.82	-0.23
18	39605	0.71	0.55	0.73	0.15	71.04	7.70	-0.32	12.37	-0.33	8.71	-0.20
19	39605	0.59	0.44	0.56	0.15	58.92	17.15	-0.22	15.82	-0.21	7.90	-0.21
20	39605	0.50	0.28	0.36	0.02	49.93	13.49	-0.15	15.00	-0.15	21.53	-0.09
21	39605	0.70	0.40	0.52	0.08	69.70	13.92	-0.15	6.73	-0.26	9.51	-0.22
22	39605	0.46	0.28	0.35	0.15	45.93	12.15	-0.21	16.71	0.00	24.99	-0.16
23	39605	0.44	0.35	0.44	0.22	43.84	10.33	-0.19	35.41	-0.13	10.13	-0.17
24	39605	0.38	0.22	0.28	0.23	37.55	21.12	-0.11	18.40	-0.09	22.62	-0.06
25	39605	0.45	0.22	0.28	0.54	44.88	14.36	-0.15	19.19	-0.05	21.00	-0.09
26	39605	0.46	0.28	0.35	0.06	45.69	14.81	-0.14	18.23	-0.09	21.20	-0.13
27	39605	0.29	0.11	0.15	0.07	29.30	8.75	-0.18	9.04	-0.24	52.80	0.14
28	39605	0.47	0.34	0.42	0.23	46.74	20.99	-0.09	16.14	-0.17	15.88	-0.18
29	39605	0.74	0.38	0.51	0.03	73.88	14.36	-0.24	6.05	-0.13	5.65	-0.23
30	39605	0.79	0.55	0.77	0.10	78.60	5.89	-0.28	5.88	-0.28	9.45	-0.31
31	39605	0.89	0.33	0.55	0.09	88.94	5.73	-0.22	2.96	-0.17	2.23	-0.15
32	39605	0.64	0.41	0.53	0.10	64.18	10.08	-0.22	8.51	-0.19	17.04	-0.19
33	39605	0.77	0.40	0.55	0.08	76.62	10.52	-0.14	7.30	-0.26	5.42	-0.25
34	39605	0.57	0.43	0.54	0.04	56.64	13.95	-0.20	14.92	-0.18	14.38	-0.22
35	39605	0.56	0.27	0.34	0.03	56.40	11.34	-0.17	22.56	-0.08	9.65	-0.16
36	39605	0.53	0.43	0.54	0.07	53.24	6.58	-0.26	8.08	-0.33	31.97	-0.13
37	39605	0.56	0.37	0.46	0.18	56.07	14.83	-0.17	20.49	-0.11	8.36	-0.28
38	39605	0.73	0.50	0.67	0.20	72.78	8.32	-0.27	9.75	-0.27	8.89	-0.24
39	39605	0.73	0.50	0.67	0.30	73.48	10.67	-0.23	8.70	-0.28	6.77	-0.26
40	39605	0.33	0.23	0.30	0.58	32.86	22.04	-0.06	15.77	-0.13	28.70	-0.07

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.15 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Science CRT Grade 4 Form A**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	39605	0.74	0.49	0.66	0.05	73.59	9.44	-0.25	9.41	-0.24	7.48	-0.27
42	39605	0.47	0.29	0.36	0.09	46.62	20.43	-0.14	20.47	-0.09	12.33	-0.15
43	39605	0.77	0.37	0.51	0.12	77.07	11.91	-0.22	6.10	-0.19	4.67	-0.18
44	39605	0.88	0.37	0.60	0.07	87.89	3.80	-0.21	5.25	-0.20	2.86	-0.21
45	39605	0.72	0.42	0.56	0.14	72.12	10.84	-0.22	11.76	-0.22	5.08	-0.20
46	39605	0.48	0.22	0.27	0.26	47.64	19.94	0.02	18.83	-0.11	13.30	-0.21
47	39605	0.41	0.13	0.16	0.04	41.24	18.58	-0.09	21.70	-0.09	18.36	0.02
48	39605	0.43	0.33	0.41	0.09	43.40	17.14	-0.11	17.92	-0.20	21.39	-0.10
49	39605	0.48	0.34	0.42	0.23	48.13	19.42	-0.10	13.44	-0.26	18.67	-0.09
50	39605	0.41	0.32	0.41	0.20	41.49	17.05	-0.17	16.61	-0.22	24.55	-0.02
51	39605	0.40	0.29	0.36	0.21	39.82	18.60	-0.14	17.50	-0.16	23.78	-0.05
52	39605	0.56	0.46	0.57	0.47	55.51	21.12	-0.22	15.45	-0.19	7.41	-0.25
53	39605	0.34	0.23	0.30	0.11	34.25	12.84	-0.07	33.36	-0.02	19.39	-0.19
54	39605	0.42	0.28	0.35	0.20	42.11	7.30	-0.20	38.74	-0.08	11.62	-0.14

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.16**  
**2008 Spring AIMS Classical Item Analysis**  
**Science CRT Grade 4 Form B**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%		%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	38975	0.95	0.30	0.66	0.15	95.45	2.12	-0.20	1.11	-0.17	1.15	-0.15	
2	38975	0.81	0.32	0.46	0.00	80.70	2.21	-0.22	2.39	-0.22	14.67	-0.17	
3	38975	0.56	0.44	0.55	0.08	55.63	10.95	-0.27	27.36	-0.19	5.93	-0.20	
4	38975	0.88	0.45	0.74	0.10	88.12	5.45	-0.29	3.24	-0.22	3.02	-0.24	
5	38975	0.79	0.36	0.51	0.13	78.69	7.33	-0.14	8.87	-0.21	4.94	-0.25	
6	38975	0.74	0.43	0.58	0.15	73.92	4.16	-0.24	18.20	-0.28	3.49	-0.16	
7	38975	0.69	0.32	0.42	0.03	69.30	18.32	-0.09	7.07	-0.23	5.24	-0.25	
8	38975	0.56	0.35	0.44	0.02	55.68	16.06	-0.17	11.98	-0.09	16.24	-0.21	
9	38975	0.80	0.45	0.65	0.04	79.74	6.50	-0.25	7.25	-0.25	6.41	-0.22	
10	38975	0.96	0.27	0.60	0.06	95.82	1.03	-0.15	1.21	-0.17	1.85	-0.15	
11	38975	0.93	0.25	0.48	0.15	93.24	3.37	-0.11	2.04	-0.18	1.17	-0.15	
12	38975	0.70	0.37	0.49	0.16	70.11	6.69	-0.23	8.73	-0.27	14.26	-0.10	
13	38975	0.70	0.40	0.53	0.42	69.92	12.06	-0.24	7.39	-0.17	10.18	-0.19	
14	38975	0.65	0.34	0.44	0.02	65.06	6.60	-0.18	5.59	-0.15	22.66	-0.20	
15	38975	0.80	0.28	0.40	0.05	80.02	5.75	-0.18	8.61	-0.10	5.53	-0.17	
16	38975	0.46	0.31	0.39	0.09	45.68	28.63	-0.08	18.68	-0.17	6.85	-0.20	
17	38975	0.65	0.36	0.47	0.08	65.04	3.60	-0.21	3.37	-0.21	27.85	-0.21	
18	38975	0.69	0.53	0.70	0.16	69.16	6.52	-0.27	12.51	-0.23	11.55	-0.32	
19	38975	0.59	0.43	0.55	0.13	58.97	16.55	-0.22	15.83	-0.21	8.47	-0.19	
20	38975	0.48	0.29	0.36	0.01	48.24	13.36	-0.16	13.24	-0.14	25.12	-0.10	
21	38975	0.66	0.40	0.52	0.04	65.94	18.43	-0.16	7.55	-0.30	8.00	-0.17	
22	38975	0.44	0.27	0.34	0.15	43.62	32.94	0.04	13.45	-0.19	9.78	-0.29	
23	38975	0.44	0.37	0.47	0.18	44.27	9.81	-0.20	35.70	-0.15	9.99	-0.18	
24	38975	0.36	0.19	0.25	0.20	35.96	20.62	-0.10	20.40	-0.06	22.76	-0.06	
25	38975	0.61	0.47	0.60	0.52	61.19	8.21	-0.27	12.21	-0.16	17.82	-0.26	
26	38975	0.42	0.26	0.33	0.05	42.09	20.94	-0.15	18.95	-0.13	17.93	-0.05	
27	38975	0.37	0.05	0.07	0.07	37.26	21.36	-0.06	15.94	-0.11	25.36	0.09	
28	38975	0.75	0.44	0.60	0.17	74.59	10.66	-0.20	5.88	-0.27	8.69	-0.23	
29	38975	0.72	0.37	0.50	0.02	71.52	12.57	-0.25	4.02	-0.19	11.85	-0.15	
30	38975	0.79	0.54	0.76	0.07	78.54	5.01	-0.26	9.19	-0.32	7.16	-0.28	
31	38975	0.90	0.32	0.54	0.03	89.90	5.40	-0.22	2.68	-0.17	1.95	-0.14	
32	38975	0.64	0.42	0.54	0.11	63.93	10.74	-0.24	7.93	-0.21	17.22	-0.19	
33	38975	0.81	0.53	0.76	0.07	80.54	10.55	-0.38	6.07	-0.25	2.72	-0.19	
34	38975	0.43	0.23	0.29	0.05	43.01	12.24	-0.13	15.46	-0.07	29.21	-0.10	
35	38975	0.57	0.28	0.35	0.03	56.68	11.79	-0.16	21.88	-0.09	9.58	-0.16	
36	38975	0.55	0.44	0.55	0.05	55.07	6.61	-0.25	7.80	-0.33	30.43	-0.14	
37	38975	0.58	0.38	0.48	0.14	57.75	14.55	-0.16	19.04	-0.13	8.46	-0.27	
38	38975	0.72	0.51	0.68	0.24	72.45	10.77	-0.29	8.22	-0.27	8.26	-0.22	
39	38975	0.39	0.29	0.37	0.27	39.06	9.59	-0.21	42.36	-0.04	8.64	-0.20	
40	38975	0.47	0.27	0.34	0.53	47.18	12.91	-0.15	25.13	-0.09	14.21	-0.12	

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.16 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Science CRT Grade 4 Form B**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%		%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	38975	0.76	0.53	0.73	0.05	76.43		5.73	-0.28	9.29	-0.30	8.45	-0.27
42	38975	0.58	0.49	0.62	0.08	58.06		17.05	-0.25	11.49	-0.26	13.26	-0.19
43	38975	0.77	0.37	0.52	0.12	76.71		11.58	-0.22	6.53	-0.20	4.98	-0.17
44	38975	0.88	0.35	0.58	0.10	88.44		3.65	-0.20	5.01	-0.19	2.72	-0.20
45	38975	0.73	0.42	0.56	0.11	73.07		10.82	-0.22	11.27	-0.22	4.67	-0.21
46	38975	0.38	0.24	0.31	0.39	38.38		21.65	-0.02	25.12	-0.04	14.43	-0.26
47	38975	0.39	0.36	0.46	0.03	38.96		15.09	-0.21	24.79	-0.17	21.06	-0.07
48	38975	0.44	0.32	0.40	0.09	43.89		16.92	-0.10	17.09	-0.20	21.96	-0.11
49	38975	0.48	0.34	0.43	0.25	47.61		19.65	-0.10	13.44	-0.26	18.98	-0.10
50	38975	0.42	0.35	0.44	0.15	41.98		17.42	-0.18	16.20	-0.23	24.14	-0.04
51	38975	0.32	0.05	0.06	0.25	31.82		11.10	-0.21	15.61	-0.19	41.14	0.24
52	38975	0.71	0.47	0.62	0.50	70.82		10.07	-0.18	9.22	-0.26	9.34	-0.28
53	38975	0.43	0.25	0.31	0.13	42.88		15.77	-0.06	18.29	-0.18	22.87	-0.07
54	38975	0.35	0.26	0.33	0.21	35.00		8.70	-0.18	39.55	-0.04	16.52	-0.14

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.17**  
**2008 Spring AIMS Classical Item Analysis**  
**Science CRT Grade 8 Form A**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%		%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	39219	0.90	0.32	0.55	0.13	89.75	2.81	-0.18	3.13	-0.18	4.18	-0.17	
2	39219	0.76	0.39	0.54	0.03	75.64	5.62	-0.24	6.46	-0.20	12.24	-0.20	
3	39219	0.75	0.51	0.70	0.06	75.46	8.46	-0.27	9.32	-0.27	6.68	-0.27	
4	39219	0.93	0.38	0.71	0.08	92.60	2.14	-0.20	3.20	-0.23	1.96	-0.21	
5	39219	0.88	0.26	0.43	0.10	88.38	5.48	-0.15	3.22	-0.15	2.81	-0.14	
6	39219	0.85	0.44	0.69	0.27	85.50	1.27	-0.19	1.79	-0.20	11.14	-0.34	
7	39219	0.75	0.43	0.59	0.15	74.81	7.99	-0.23	7.11	-0.20	9.92	-0.24	
8	39219	0.63	0.33	0.42	0.02	63.44	7.08	-0.14	12.34	-0.13	17.11	-0.21	
9	39219	0.64	0.31	0.40	0.03	63.88	5.55	-0.22	25.47	-0.10	5.06	-0.25	
10	39219	0.58	0.18	0.23	0.06	58.37	15.44	-0.09	20.72	-0.05	5.39	-0.16	
11	39219	0.83	0.45	0.67	0.05	83.30	3.61	-0.20	8.92	-0.29	4.12	-0.23	
12	39219	0.59	0.29	0.37	0.25	58.55	16.31	-0.09	13.99	-0.22	10.88	-0.11	
13	39219	0.70	0.27	0.35	0.47	70.41	4.85	-0.21	5.98	-0.25	18.28	-0.04	
14	39219	0.64	0.38	0.48	0.03	64.20	14.60	-0.15	9.34	-0.24	11.82	-0.19	
15	39219	0.74	0.40	0.54	0.04	74.34	4.76	-0.23	5.36	-0.27	15.48	-0.17	
16	39219	0.56	0.26	0.33	0.10	56.11	4.28	-0.23	8.30	-0.27	31.18	-0.02	
17	39219	0.66	0.42	0.55	0.08	65.79	9.71	-0.12	14.05	-0.21	10.35	-0.30	
18	39219	0.64	0.43	0.55	0.14	64.11	18.27	-0.24	7.09	-0.18	10.36	-0.21	
19	39219	0.82	0.36	0.52	0.05	81.69	10.55	-0.20	3.07	-0.22	4.62	-0.18	
20	39219	0.70	0.47	0.62	0.01	69.90	8.48	-0.24	10.94	-0.23	10.66	-0.25	
21	39219	0.63	0.30	0.39	0.03	63.32	11.88	-0.12	16.86	-0.20	7.88	-0.12	
22	39219	0.64	0.48	0.62	0.11	63.97	11.00	-0.25	10.94	-0.25	13.97	-0.21	
23	39219	0.63	0.51	0.65	0.10	63.26	12.73	-0.29	16.00	-0.26	7.90	-0.20	
24	39219	0.63	0.46	0.59	0.18	63.43	8.22	-0.25	19.51	-0.20	8.65	-0.25	
25	39219	0.59	0.41	0.52	0.49	58.55	9.02	-0.24	8.99	-0.30	22.94	-0.11	
26	39219	0.57	0.31	0.39	0.04	57.40	7.40	-0.23	28.93	-0.17	6.20	-0.07	
27	39219	0.61	0.41	0.52	0.06	61.26	10.54	-0.21	15.92	-0.13	12.21	-0.27	
28	39219	0.41	0.28	0.36	0.08	40.78	8.18	-0.24	35.98	0.01	14.97	-0.22	
29	39219	0.77	0.40	0.55	0.05	76.63	5.54	-0.27	5.51	-0.24	12.24	-0.16	
30	39219	0.75	0.38	0.52	0.14	74.67	7.37	-0.17	6.20	-0.18	11.63	-0.24	
31	39219	0.42	0.33	0.42	0.06	42.41	6.39	-0.28	10.66	-0.25	40.47	-0.04	
32	39219	0.17	0.11	0.16	0.08	17.07	21.93	0.07	44.33	-0.03	16.58	-0.14	
33	39219	0.63	0.37	0.47	0.07	63.32	9.72	-0.26	10.09	-0.11	16.77	-0.18	
34	39219	0.64	0.44	0.56	0.07	63.66	16.65	-0.18	10.84	-0.23	8.77	-0.24	
35	39219	0.57	0.33	0.41	0.12	57.15	17.79	-0.09	18.25	-0.18	6.67	-0.23	
36	39219	0.54	0.43	0.53	0.08	53.65	12.79	-0.26	9.51	-0.21	23.94	-0.15	
37	39219	0.68	0.51	0.67	0.01	67.77	5.13	-0.29	12.84	-0.33	14.23	-0.19	
38	39219	0.68	0.35	0.45	0.05	68.24	11.04	-0.11	16.29	-0.22	4.35	-0.22	
39	39219	0.55	0.32	0.40	0.10	55.30	9.76	-0.25	7.28	-0.28	27.52	-0.02	
40	39219	0.82	0.47	0.70	0.11	82.49	4.97	-0.25	6.52	-0.28	5.88	-0.24	

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.17 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Science CRT Grade 8 Form A**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	39219	0.51	0.41	0.51	0.27	51.23	16.64	-0.20	26.79	-0.19	5.04	-0.20
42	39219	0.53	0.43	0.54	0.66	52.53	23.94	-0.15	8.54	-0.29	14.30	-0.19
43	39219	0.44	0.45	0.56	0.02	44.48	13.10	-0.28	13.05	-0.28	29.33	-0.07
44	39219	0.49	0.36	0.45	0.06	49.27	13.65	-0.21	12.43	-0.27	24.57	-0.04
45	39219	0.84	0.45	0.68	0.11	84.40	6.25	-0.26	5.65	-0.26	3.55	-0.21
46	39219	0.37	0.35	0.45	0.09	37.38	30.86	-0.08	12.87	-0.20	18.75	-0.16
47	39219	0.74	0.52	0.70	0.12	73.85	12.72	-0.29	6.48	-0.28	6.81	-0.24
48	39219	0.57	0.39	0.50	0.07	56.50	17.07	-0.18	8.31	-0.27	18.03	-0.13
49	39219	0.40	0.23	0.30	0.03	40.15	26.56	-0.10	25.07	-0.01	8.16	-0.25
50	39219	0.51	0.33	0.42	0.06	51.33	22.53	-0.10	14.19	-0.18	11.87	-0.18
51	39219	0.42	0.40	0.50	0.12	42.16	22.98	-0.09	13.47	-0.22	21.20	-0.20
52	39219	0.38	0.40	0.51	0.09	38.33	27.49	-0.11	28.64	-0.22	5.40	-0.21
53	39219	0.55	0.46	0.58	0.31	55.21	17.96	-0.23	9.89	-0.23	16.60	-0.19
54	39219	0.30	0.15	0.20	0.57	29.52	7.87	-0.24	47.33	0.09	14.69	-0.14
55	39219	0.53	0.45	0.57	0.06	53.41	15.81	-0.22	12.55	-0.26	18.14	-0.15
56	39219	0.53	0.29	0.36	0.06	52.59	21.78	-0.01	14.39	-0.25	11.12	-0.16
57	39219	0.51	0.50	0.63	0.08	50.74	17.92	-0.14	15.14	-0.26	16.09	-0.28
58	39219	0.47	0.07	0.08	0.05	46.85	27.38	0.07	12.71	-0.07	12.98	-0.12

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.18**  
**2008 Spring AIMS Classical Item Analysis**  
**Science CRT Grade 8 Form B**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%		%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	38733	0.85	0.31	0.48	0.15	85.10		8.77	-0.23	3.83	-0.12	2.15	-0.16
2	38733	0.70	0.38	0.50	0.03	70.19		12.14	-0.18	8.62	-0.21	9.01	-0.19
3	38733	0.75	0.41	0.56	0.07	75.16		5.48	-0.22	7.30	-0.22	11.97	-0.21
4	38733	0.93	0.35	0.68	0.05	93.18		1.79	-0.18	2.82	-0.22	2.15	-0.20
5	38733	0.89	0.26	0.43	0.12	89.24		5.33	-0.15	2.72	-0.13	2.58	-0.15
6	38733	0.86	0.43	0.66	0.28	85.83		1.17	-0.17	1.39	-0.18	11.33	-0.34
7	38733	0.69	0.37	0.48	0.11	68.59		5.33	-0.23	21.11	-0.18	4.85	-0.21
8	38733	0.51	0.26	0.33	0.03	50.83		10.53	-0.18	5.30	-0.28	33.31	-0.03
9	38733	0.62	0.38	0.48	0.04	62.16		12.06	-0.15	11.01	-0.17	14.72	-0.23
10	38733	0.59	0.18	0.22	0.07	59.18		14.70	-0.09	20.49	-0.04	5.54	-0.17
11	38733	0.83	0.43	0.64	0.07	83.43		3.22	-0.19	8.80	-0.28	4.47	-0.23
12	38733	0.59	0.30	0.38	0.21	59.16		15.04	-0.11	13.82	-0.22	11.75	-0.10
13	38733	0.71	0.26	0.34	0.33	71.28		4.79	-0.19	5.58	-0.24	18.01	-0.05
14	38733	0.63	0.36	0.46	0.03	62.79		15.15	-0.13	9.58	-0.22	12.44	-0.18
15	38733	0.74	0.39	0.53	0.03	74.47		4.84	-0.24	5.35	-0.26	15.29	-0.17
16	38733	0.71	0.38	0.50	0.06	70.79		2.95	-0.19	17.10	-0.21	9.08	-0.21
17	38733	0.60	0.39	0.50	0.11	59.87		22.88	-0.13	6.67	-0.24	10.44	-0.26
18	38733	0.62	0.38	0.49	0.25	62.28		21.71	-0.22	5.58	-0.22	10.17	-0.13
19	38733	0.80	0.35	0.50	0.08	79.85		11.23	-0.18	3.67	-0.23	5.15	-0.18
20	38733	0.69	0.47	0.61	0.02	69.27		8.53	-0.22	10.97	-0.23	11.19	-0.26
21	38733	0.62	0.30	0.38	0.04	62.05		12.18	-0.11	18.01	-0.19	7.70	-0.14
22	38733	0.52	0.20	0.25	0.09	52.05		3.95	-0.20	15.33	-0.14	28.56	-0.02
23	38733	0.69	0.42	0.55	0.13	69.19		16.36	-0.20	8.24	-0.24	6.06	-0.21
24	38733	0.69	0.50	0.65	0.17	68.64		9.15	-0.23	8.31	-0.29	13.70	-0.24
25	38733	0.60	0.44	0.56	0.41	60.30		22.88	-0.19	7.31	-0.24	9.10	-0.23
26	38733	0.58	0.30	0.38	0.04	58.23		8.03	-0.23	27.59	-0.17	6.09	-0.05
27	38733	0.60	0.41	0.52	0.05	60.14		10.51	-0.21	16.33	-0.13	12.94	-0.27
28	38733	0.53	0.45	0.56	0.08	52.71		11.12	-0.24	22.18	-0.18	13.88	-0.21
29	38733	0.41	0.38	0.48	0.05	40.96		14.42	-0.17	18.52	-0.17	26.04	-0.13
30	38733	0.74	0.39	0.52	0.15	74.12		15.06	-0.18	4.67	-0.23	6.00	-0.22
31	38733	0.34	0.28	0.37	0.10	33.69		7.79	-0.25	28.25	-0.04	30.17	-0.11
32	38733	0.67	0.31	0.41	0.03	66.94		21.35	-0.10	7.43	-0.25	4.24	-0.19
33	38733	0.58	0.33	0.41	0.05	58.36		10.73	-0.25	9.20	-0.12	21.65	-0.12
34	38733	0.64	0.43	0.55	0.08	63.64		16.75	-0.18	10.85	-0.22	8.65	-0.24
35	38733	0.57	0.32	0.40	0.17	57.09		18.12	-0.09	17.99	-0.17	6.62	-0.23
36	38733	0.83	0.39	0.58	0.08	83.40		4.24	-0.22	7.31	-0.23	4.95	-0.18
37	38733	0.49	0.35	0.44	0.01	48.58		18.13	-0.09	20.45	-0.17	12.82	-0.22
38	38733	0.70	0.32	0.42	0.04	70.33		9.60	-0.07	16.03	-0.22	3.99	-0.21
39	38733	0.55	0.30	0.38	0.09	55.46		9.66	-0.25	6.89	-0.28	27.90	-0.01
40	38733	0.82	0.47	0.69	0.14	82.16		4.94	-0.25	6.85	-0.27	5.89	-0.24

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.18 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Science CRT Grade 8 Form B**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	38733	0.51	0.40	0.50	0.22	51.44	16.53	-0.19	26.68	-0.19	5.10	-0.19
42	38733	0.53	0.43	0.54	0.53	52.82	23.25	-0.16	8.82	-0.29	14.57	-0.18
43	38733	0.44	0.44	0.56	0.06	43.56	13.63	-0.28	13.41	-0.26	29.32	-0.07
44	38733	0.48	0.36	0.45	0.05	48.44	13.57	-0.21	13.27	-0.26	24.65	-0.04
45	38733	0.69	0.53	0.69	0.10	69.22	6.41	-0.28	16.68	-0.26	7.56	-0.28
46	38733	0.39	0.28	0.35	0.14	38.64	17.32	-0.18	20.27	-0.15	23.59	-0.01
47	38733	0.39	0.27	0.34	0.18	39.48	17.02	0.06	13.46	-0.18	29.83	-0.20
48	38733	0.44	0.39	0.49	0.09	44.17	14.29	-0.22	21.24	-0.15	20.19	-0.14
49	38733	0.58	0.48	0.61	0.04	57.55	15.63	-0.29	13.35	-0.26	13.42	-0.13
50	38733	0.75	0.44	0.59	0.04	74.67	11.48	-0.23	9.04	-0.24	4.73	-0.22
51	38733	0.47	0.23	0.29	0.12	47.15	12.40	-0.25	23.69	0.02	16.59	-0.11
52	38733	0.41	0.42	0.54	0.10	41.28	27.18	-0.12	26.73	-0.25	4.67	-0.21
53	38733	0.54	0.46	0.58	0.28	53.84	20.52	-0.23	9.13	-0.22	16.17	-0.19
54	38733	0.31	0.18	0.23	0.56	30.84	7.53	-0.23	46.89	0.07	14.15	-0.15
55	38733	0.60	0.43	0.55	0.06	60.07	13.71	-0.22	13.72	-0.25	12.43	-0.14
56	38733	0.66	0.46	0.59	0.06	65.92	9.67	-0.26	13.28	-0.26	11.04	-0.16
57	38733	0.52	0.47	0.59	0.08	51.67	10.93	-0.25	20.86	-0.15	16.43	-0.26
58	38733	0.44	0.32	0.40	0.06	44.32	15.73	-0.15	18.02	-0.14	21.85	-0.12

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.



**Table 6.4.19**  
**2008 Spring AIMS Classical Item Analysis**  
**Science CRT High School Form A**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%		%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	22677	0.88	0.36	0.59	0.04	88.01	4.47	-0.21	3.14	-0.20	4.32	-0.19	
2	22677	0.88	0.29	0.47	0.05	87.98	4.93	-0.13	3.78	-0.18	3.25	-0.18	
3	22677	0.75	0.45	0.61	0.08	74.58	8.67	-0.21	8.21	-0.25	8.44	-0.24	
4	22677	0.88	0.42	0.67	0.12	87.54	4.59	-0.24	4.30	-0.23	3.44	-0.22	
5	22677	0.79	0.29	0.41	0.02	79.26	2.63	-0.20	12.65	-0.16	5.43	-0.15	
6	22677	0.67	0.28	0.36	0.03	66.88	11.47	-0.09	9.33	-0.15	12.28	-0.18	
7	22677	0.76	0.41	0.56	0.13	75.79	10.59	-0.20	9.11	-0.24	4.35	-0.21	
8	22677	0.77	0.42	0.58	0.13	77.19	14.90	-0.23	4.22	-0.25	3.52	-0.23	
9	22677	0.73	0.49	0.66	0.05	72.97	9.49	-0.23	10.78	-0.31	6.69	-0.22	
10	22677	0.70	0.32	0.42	0.07	70.14	17.93	-0.17	6.44	-0.16	5.42	-0.18	
11	22677	0.61	0.43	0.54	0.09	61.25	10.02	-0.21	17.61	-0.18	11.00	-0.23	
12	22677	0.57	0.36	0.46	0.32	56.92	12.29	-0.10	16.59	-0.22	13.86	-0.18	
13	22677	0.69	0.41	0.54	0.02	69.46	18.86	-0.25	3.91	-0.19	7.72	-0.20	
14	22677	0.52	0.28	0.35	0.07	51.72	17.20	-0.05	23.65	-0.18	7.34	-0.16	
15	22677	0.67	0.46	0.60	0.09	67.00	16.24	-0.24	7.72	-0.29	8.94	-0.17	
16	22677	0.66	0.34	0.44	0.61	65.54	12.16	-0.20	15.82	-0.12	5.85	-0.20	
17	22677	0.80	0.52	0.75	0.04	80.23	5.91	-0.27	5.81	-0.29	7.99	-0.28	
18	22677	0.71	0.49	0.65	0.08	70.94	7.60	-0.29	11.80	-0.28	9.58	-0.19	
19	22677	0.75	0.51	0.70	0.07	74.98	10.55	-0.28	9.19	-0.29	5.19	-0.23	
20	22677	0.60	0.35	0.44	0.07	60.45	4.42	-0.25	14.36	-0.24	20.70	-0.08	
21	22677	0.37	0.29	0.37	0.05	36.62	11.44	-0.17	18.15	-0.21	33.71	-0.01	
22	22677	0.68	0.39	0.51	0.06	68.47	10.79	-0.27	9.03	-0.22	11.62	-0.11	
23	22677	0.59	0.30	0.38	0.11	58.98	9.14	-0.20	24.73	-0.11	6.97	-0.16	
24	22677	0.51	0.33	0.41	0.55	50.60	23.82	-0.06	12.75	-0.21	12.22	-0.20	
25	22677	0.62	0.42	0.53	0.04	61.78	10.53	-0.20	10.32	-0.24	17.30	-0.18	
26	22677	0.61	0.36	0.46	0.05	60.75	16.58	-0.13	14.38	-0.24	8.20	-0.15	
27	22677	0.60	0.39	0.50	0.17	60.18	10.13	-0.22	15.70	-0.22	13.79	-0.13	
28	22677	0.60	0.44	0.56	0.33	60.05	7.77	-0.25	15.44	-0.26	16.38	-0.14	
29	22677	0.35	0.33	0.42	0.03	34.74	22.17	-0.15	6.15	-0.24	36.88	-0.07	
30	22677	0.52	0.30	0.38	0.05	52.27	21.37	-0.12	16.12	-0.19	10.16	-0.11	
31	22677	0.47	0.36	0.45	0.18	46.85	17.16	-0.20	22.66	-0.21	13.10	-0.04	
32	22677	0.47	0.39	0.49	0.13	47.44	20.56	-0.18	21.15	-0.10	10.71	-0.27	
33	22677	0.52	0.33	0.42	0.06	52.32	11.31	-0.23	19.38	-0.11	16.92	-0.13	
34	22677	0.51	0.34	0.42	0.09	50.60	7.02	-0.20	27.38	-0.17	14.87	-0.12	
35	22677	0.42	0.36	0.46	0.18	42.17	10.91	-0.17	21.12	-0.25	25.59	-0.06	
36	22677	0.55	0.37	0.47	0.68	55.21	8.82	-0.20	20.48	-0.12	14.77	-0.21	
37	22677	0.41	0.34	0.43	0.08	40.89	29.45	-0.15	16.60	-0.14	12.95	-0.13	
38	22677	0.44	0.30	0.38	0.09	44.37	14.20	-0.14	35.95	-0.12	5.34	-0.19	
39	22677	0.53	0.20	0.25	0.53	53.11	9.34	-0.19	27.54	0.06	9.45	-0.22	
40	22677	0.77	0.48	0.67	0.09	77.50	10.89	-0.25	6.59	-0.27	4.90	-0.24	

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.19 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Science CRT High School Form A**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	22677	0.56	0.39	0.50	0.11	56.42	19.19	-0.10	18.17	-0.28	6.06	-0.20
42	22677	0.32	0.25	0.33	0.17	31.92	23.18	-0.09	29.19	0.00	15.51	-0.21
43	22677	0.44	0.34	0.43	0.13	44.22	20.04	-0.21	22.10	-0.04	13.50	-0.21
44	22677	0.34	0.39	0.51	0.08	33.81	14.10	-0.23	17.44	-0.21	34.53	-0.05
45	22677	0.38	0.37	0.48	0.10	38.37	9.71	-0.26	36.83	-0.03	14.94	-0.25
46	22677	0.65	0.39	0.51	0.17	64.76	12.97	-0.17	13.75	-0.21	8.30	-0.20
47	22677	0.66	0.35	0.45	0.67	65.78	10.40	-0.19	10.74	-0.19	12.34	-0.12
48	22677	0.58	0.49	0.62	0.08	58.31	11.88	-0.27	16.36	-0.23	13.32	-0.20
49	22677	0.40	0.34	0.43	0.15	40.38	12.33	-0.19	31.45	-0.07	15.63	-0.18
50	22677	0.48	0.42	0.52	0.25	47.87	22.31	-0.14	21.10	-0.23	8.40	-0.21
51	22677	0.62	0.47	0.60	0.67	62.05	12.61	-0.21	14.90	-0.26	9.72	-0.21
52	22677	0.49	0.31	0.38	0.15	48.55	7.77	-0.30	23.89	-0.12	19.61	-0.05
53	22677	0.37	0.24	0.30	0.14	36.91	18.96	-0.03	21.70	-0.09	22.24	-0.14
54	22677	0.37	0.24	0.30	0.17	36.52	31.65	-0.12	18.60	-0.09	13.00	-0.07
55	22677	0.59	0.34	0.43	0.24	59.42	9.82	-0.22	16.47	-0.11	14.01	-0.17
56	22677	0.56	0.44	0.55	0.12	55.60	11.29	-0.24	14.44	-0.28	18.52	-0.11
57	22677	0.35	0.17	0.21	0.18	34.88	32.70	0.04	18.71	-0.21	13.51	-0.05
58	22677	0.35	0.37	0.47	0.33	35.38	15.05	-0.20	23.30	-0.11	25.90	-0.12
59	22677	0.38	0.30	0.38	0.51	37.54	12.77	-0.19	33.62	-0.01	15.50	-0.19
60	22677	0.34	0.16	0.20	0.14	34.22	18.43	-0.19	34.90	0.13	12.29	-0.18
61	22677	0.34	0.17	0.22	0.16	33.92	16.50	-0.07	35.18	-0.08	14.23	-0.05
62	22677	0.29	0.20	0.26	0.16	28.62	29.14	-0.04	24.91	-0.06	17.14	-0.11
63	22677	0.21	0.17	0.24	0.18	21.44	26.46	0.05	29.94	-0.08	21.94	-0.13
64	22677	0.32	0.13	0.16	0.23	31.92	34.28	0.02	18.91	-0.13	14.61	-0.04

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.20**  
**2008 Spring AIMS Classical Item Analysis**  
**Science CRT High School Form B**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%		%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	22163	0.68	0.35	0.45	0.15	67.66		17.72	-0.19	8.39	-0.17	6.07	-0.17
2	22163	0.85	0.45	0.69	0.06	84.92		2.56	-0.17	5.65	-0.25	6.78	-0.31
3	22163	0.75	0.41	0.55	0.14	75.34		3.90	-0.13	4.15	-0.19	16.46	-0.30
4	22163	0.62	0.37	0.47	0.14	62.45		28.01	-0.27	3.15	-0.19	6.21	-0.10
5	22163	0.80	0.28	0.40	0.04	80.18		2.42	-0.17	11.65	-0.15	5.69	-0.15
6	22163	0.68	0.25	0.33	0.05	68.22		10.96	-0.07	8.35	-0.15	12.39	-0.16
7	22163	0.77	0.40	0.55	0.17	76.68		9.12	-0.19	9.34	-0.24	4.65	-0.20
8	22163	0.65	0.35	0.45	0.17	65.39		5.67	-0.13	5.67	-0.16	23.08	-0.23
9	22163	0.56	0.35	0.45	0.04	55.96		8.35	-0.18	15.22	-0.19	20.40	-0.15
10	22163	0.48	0.36	0.46	0.11	47.81		31.34	-0.12	13.94	-0.21	6.78	-0.20
11	22163	0.61	0.41	0.53	0.08	61.18		10.64	-0.22	16.83	-0.17	11.23	-0.22
12	22163	0.58	0.36	0.46	0.39	57.58		12.02	-0.13	16.06	-0.23	13.92	-0.15
13	22163	0.66	0.52	0.67	0.03	66.22		10.21	-0.15	14.76	-0.33	8.74	-0.29
14	22163	0.76	0.57	0.78	0.03	75.89		6.61	-0.27	8.22	-0.29	9.22	-0.33
15	22163	0.69	0.36	0.47	0.60	69.18		10.75	-0.20	14.21	-0.15	5.23	-0.21
16	22163	0.81	0.50	0.71	0.03	80.61		5.78	-0.26	5.64	-0.27	7.91	-0.27
17	22163	0.65	0.33	0.42	0.05	65.45		12.13	-0.14	7.21	-0.23	15.14	-0.14
18	22163	0.77	0.44	0.61	0.11	76.84		6.64	-0.23	12.02	-0.26	4.36	-0.22
19	22163	0.74	0.38	0.51	0.05	74.23		3.45	-0.23	7.19	-0.20	15.03	-0.20
20	22163	0.81	0.44	0.64	0.05	81.32		10.73	-0.28	5.41	-0.25	2.48	-0.18
21	22163	0.61	0.21	0.27	0.06	61.16		24.37	0.01	8.96	-0.24	5.41	-0.16
22	22163	0.74	0.53	0.72	0.14	73.62		7.12	-0.26	11.34	-0.27	7.74	-0.30
23	22163	0.46	0.31	0.39	0.79	46.42		28.03	-0.03	13.13	-0.22	11.58	-0.20
24	22163	0.62	0.44	0.57	0.09	62.17		9.35	-0.23	9.65	-0.24	18.72	-0.20
25	22163	0.60	0.34	0.43	0.06	60.24		17.04	-0.12	14.53	-0.25	8.11	-0.13
26	22163	0.41	0.20	0.25	0.30	41.15		29.14	0.03	16.15	-0.14	13.20	-0.16
27	22163	0.44	0.31	0.39	0.59	43.60		30.19	0.01	11.42	-0.22	14.15	-0.23
28	22163	0.66	0.41	0.53	0.04	65.74		9.36	-0.17	16.66	-0.22	8.17	-0.23
29	22163	0.53	0.31	0.39	0.08	52.53		19.76	-0.15	17.67	-0.16	9.90	-0.12
30	22163	0.48	0.38	0.47	0.16	47.83		17.38	-0.19	22.77	-0.22	11.83	-0.07
31	22163	0.45	0.34	0.43	0.15	44.81		31.51	-0.06	12.08	-0.22	11.43	-0.21
32	22163	0.60	0.41	0.52	0.05	59.80		7.67	-0.26	19.65	-0.22	12.81	-0.13
33	22163	0.32	0.24	0.31	0.11	31.51		35.13	-0.01	23.18	-0.14	10.02	-0.15
34	22163	0.42	0.36	0.46	0.15	41.82		13.00	-0.14	21.68	-0.24	23.31	-0.07
35	22163	0.51	0.35	0.44	0.73	51.27		11.49	-0.18	14.75	-0.22	21.73	-0.08
36	22163	0.37	0.27	0.35	0.09	37.30		36.77	0.00	17.24	-0.21	8.55	-0.18
37	22163	0.47	0.25	0.32	0.07	46.81		13.94	-0.18	6.28	-0.27	32.87	0.01
38	22163	0.50	0.35	0.44	0.28	50.15		19.97	-0.18	11.18	-0.25	18.35	-0.06
39	22163	0.69	0.50	0.66	0.54	68.86		7.67	-0.25	10.66	-0.28	12.21	-0.23
40	22163	0.49	0.34	0.43	0.09	48.82		8.81	-0.23	13.77	-0.23	28.47	-0.05

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

(table continues)

**Table 6.4.20 (continued)**  
**2008 Spring AIMS Classical Item Analysis**  
**Science CRT High School Form B**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
41	22163	0.48	0.31	0.39	0.22	47.56	18.89	-0.10	19.32	-0.21	13.96	-0.09
42	22163	0.38	0.31	0.40	0.18	37.54	25.12	-0.03	13.73	-0.27	23.37	-0.11
43	22163	0.42	0.32	0.40	0.13	41.99	10.49	-0.20	20.47	-0.22	26.87	-0.01
44	22163	0.34	0.39	0.50	0.08	33.69	13.80	-0.25	18.09	-0.20	34.32	-0.04
45	22163	0.37	0.37	0.48	0.07	37.49	9.06	-0.24	38.26	-0.05	15.08	-0.24
46	22163	0.63	0.38	0.49	0.23	63.29	13.69	-0.17	13.72	-0.21	9.02	-0.17
47	22163	0.68	0.35	0.46	0.59	67.77	9.39	-0.17	10.42	-0.21	11.81	-0.14
48	22163	0.58	0.48	0.61	0.11	58.26	11.65	-0.27	16.35	-0.22	13.59	-0.20
49	22163	0.38	0.20	0.25	0.13	37.67	36.99	0.04	18.73	-0.22	6.45	-0.12
50	22163	0.41	0.25	0.32	0.13	40.79	28.21	0.03	23.03	-0.19	7.77	-0.20
51	22163	0.51	0.32	0.41	0.71	50.53	26.21	-0.03	16.69	-0.24	5.81	-0.24
52	22163	0.59	0.41	0.52	0.14	58.92	13.88	-0.20	13.77	-0.23	13.26	-0.14
53	22163	0.22	0.17	0.24	0.11	21.97	52.32	0.25	12.61	-0.34	12.92	-0.24
54	22163	0.41	0.26	0.33	0.17	40.99	18.68	-0.09	18.54	-0.19	21.58	-0.04
55	22163	0.48	0.46	0.58	0.19	48.28	15.18	-0.25	15.98	-0.27	20.31	-0.10
56	22163	0.61	0.42	0.54	0.09	60.58	16.32	-0.27	7.84	-0.25	15.15	-0.11
57	22163	0.55	0.47	0.60	0.11	55.18	17.24	-0.17	16.16	-0.28	11.28	-0.21
58	22163	0.37	0.40	0.51	0.27	36.73	13.87	-0.23	22.52	-0.12	26.57	-0.13
59	22163	0.40	0.30	0.39	0.46	39.51	11.32	-0.21	33.46	-0.02	15.23	-0.19
60	22163	0.44	0.29	0.37	0.20	44.14	28.71	-0.03	17.61	-0.18	9.29	-0.21
61	22163	0.58	0.39	0.50	0.11	57.80	14.78	-0.15	13.21	-0.25	14.07	-0.15
62	22163	0.41	0.13	0.16	0.17	40.93	16.47	-0.20	14.64	-0.13	27.74	0.14
63	22163	0.36	0.23	0.29	0.17	35.87	13.50	-0.22	8.89	-0.29	41.52	0.10
64	22163	0.42	0.33	0.42	0.26	42.30	30.55	-0.07	15.54	-0.18	11.33	-0.21

Note. Item number is not the item number in test booklet as some items might have been suppressed. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.21**  
**2008 Spring AIMS Classical Item Analysis**  
**Writing CRT Grade 3**

Trait	N	P-Value	<i>r</i>	Percentages								
				Omit	at 0	at 1	at 2	at 3	at 4	at 5	at 6	Invalid
1	83655	0.54	0.85	0.40	2.46	2.31	10.88	39.21	38.93	5.38	0.42	0.01
2	83655	0.54	0.85	0.40	2.46	2.39	11.49	40.02	38.15	4.68	0.39	0.01
3	83655	0.55	0.90	0.40	2.46	3.61	12.54	31.63	39.15	8.60	1.59	0.01
4	83655	0.55	0.90	0.40	2.46	3.62	12.58	31.89	39.32	8.19	1.54	0.01
5	83655	0.55	0.90	0.40	2.46	3.68	13.06	32.35	38.58	7.92	1.54	0.01
6	83655	0.53	0.83	0.40	2.46	2.55	12.57	40.67	36.40	4.55	0.37	0.01

Note. This test included a single prompt item scored on the analytic six-trait rubric. Blank responses were treated as omit. Illegible responses, non-English responses, and off-topic responses were treated as 0. Note that the N count in this table is higher than that in the test statistics table, due to the inclusion of students omitting a response in computations. The statistics presented in this table are based on census data.

P-value = Sum of all students' scores / (N × 6) for a trait.

**Table 6.4.22**  
**2008 Spring AIMS Classical Item Analysis**  
**Writing CRT Grade 4**

Trait	N	P-Value	<i>r</i>	Percentages								
				Omit	at 0	at 1	at 2	at 3	at 4	at 5	at 6	Invalid
1	81888	0.53	0.81	0.30	1.48	1.25	10.67	50.02	33.48	2.67	0.13	0.00
2	81888	0.53	0.82	0.30	1.48	1.26	11.69	49.05	33.84	2.27	0.12	0.00
3	81888	0.50	0.87	0.30	1.48	3.67	19.88	47.67	24.09	2.75	0.16	0.00
4	81888	0.49	0.87	0.30	1.48	3.93	20.79	48.60	22.33	2.42	0.15	0.00
5	81888	0.49	0.87	0.30	1.48	3.82	21.07	48.80	22.12	2.27	0.14	0.00
6	81888	0.53	0.79	0.30	1.48	1.53	11.08	48.46	34.78	2.27	0.11	0.00

Note. This test included a single prompt item scored on the analytic six-trait rubric. Blank responses were treated as omit. Illegible responses, non-English responses, and off-topic responses were treated as 0. Note that the N count in this table is higher than that in the test statistics table, due to the inclusion of students omitting a response in computations. The statistics presented in this table are based on census data.

P-value = Sum of all students' scores / (N × 6) for a trait

**Table 6.4.23**  
**2008 Spring AIMS Classical Item Analysis**  
**Writing CRT Grade 5**

Trait	N	P-Value	<i>r</i>	Percentages								
				Omit	at 0	at 1	at 2	at 3	at 4	at 5	at 6	Invalid
1	81645	0.58	0.79	0.27	1.19	0.72	3.48	38.52	51.66	3.90	0.25	0.00
2	81645	0.57	0.79	0.27	1.19	0.81	5.05	41.59	47.81	3.06	0.20	0.00
3	81645	0.55	0.89	0.27	1.19	2.59	11.52	37.36	40.65	5.87	0.54	0.00
4	81645	0.55	0.89	0.27	1.19	2.57	11.68	38.04	40.22	5.52	0.52	0.00
5	81645	0.55	0.89	0.27	1.19	2.55	11.69	38.15	40.11	5.48	0.54	0.00
6	81645	0.57	0.76	0.27	1.19	0.91	5.86	40.75	48.21	2.61	0.18	0.00

Note. This test included a single prompt item scored on the analytic six-trait rubric. Blank responses were treated as omit. Illegible responses, non-English responses, and off-topic responses were treated as 0. Note that the N count in this table is higher than that in the test statistics table, due to the inclusion of students omitting a response in computations. The statistics presented in this table are based on census data.

P-value = Sum of all students' scores / (N × 6) for a trait

**Table 6.4.24**  
**2008 Spring AIMS Classical Item Analysis**  
**Writing CRT Grade 6**

Trait	N	P-Value	<i>r</i>	Percentages								
				Omit	at 0	at 1	at 2	at 3	at 4	at 5	at 6	Invalid
1	81997	0.52	0.82	0.40	1.06	2.50	15.86	47.20	29.20	3.48	0.30	0.00
2	81997	0.52	0.82	0.40	1.06	2.60	16.60	47.07	28.92	3.07	0.29	0.00
3	81997	0.52	0.85	0.40	1.06	2.83	14.56	47.23	30.00	3.55	0.37	0.00
4	81997	0.52	0.85	0.40	1.06	2.77	14.28	48.20	29.54	3.39	0.36	0.00
5	81997	0.52	0.85	0.40	1.06	2.78	14.59	47.88	29.56	3.37	0.35	0.00
6	81997	0.52	0.81	0.40	1.06	2.71	15.94	45.49	30.78	3.30	0.31	0.00

Note. This test included a single prompt item scored on the analytic six-trait rubric. Blank responses were treated as omit. Illegible responses, non-English responses, and off-topic responses were treated as 0. Note that the N count in this table is higher than that in the test statistics table, due to the inclusion of students omitting a response in computations. The statistics presented in this table are based on census data.

P-value = Sum of all students' scores / (N × 6) for a trait

**Table 6.4.25**  
**2008 Spring AIMS Classical Item Analysis**  
**Writing CRT Grade 7**

Trait	N	P-Value	<i>r</i>	Percentages								
				Omit	at 0	at 1	at 2	at 3	at 4	at 5	at 6	Invalid
1	81236	0.58	0.82	0.31	0.90	1.28	8.84	36.35	44.06	7.28	0.98	0.00
2	81236	0.58	0.83	0.31	0.90	1.36	8.77	35.98	44.91	6.88	0.89	0.00
3	81236	0.55	0.83	0.31	0.90	1.33	11.83	43.63	36.49	5.03	0.48	0.00
4	81236	0.55	0.83	0.31	0.90	1.28	11.29	46.01	35.36	4.39	0.45	0.00
5	81236	0.54	0.83	0.31	0.90	1.43	12.55	44.79	35.04	4.49	0.47	0.00
6	81236	0.58	0.81	0.31	0.90	1.35	8.60	35.90	45.28	6.77	0.88	0.00

Note. This test included a single prompt item scored on the analytic six-trait rubric. Blank responses were treated as omit. Illegible responses, non-English responses, and off-topic responses were treated as 0. Note that the N count in this table is higher than that in the test statistics table, due to the inclusion of students omitting a response in computations. The statistics presented in this table are based on census data.

P-value = Sum of all students' scores / (N × 6) for a trait

**Table 6.4.26**  
**2008 Spring AIMS Classical Item Analysis**  
**Writing CRT Grade 8**

Trait	N	P-Value	<i>r</i>	Percentages								
				Omit	at 0	at 1	at 2	at 3	at 4	at 5	at 6	Invalid
1	81014	0.62	0.81	0.35	0.49	0.72	4.89	28.93	49.87	12.82	1.93	0.00
2	81014	0.61	0.82	0.35	0.49	0.91	6.21	29.83	50.20	10.48	1.54	0.00
3	81014	0.60	0.86	0.35	0.49	1.47	6.28	33.67	47.35	9.12	1.27	0.00
4	81014	0.59	0.86	0.35	0.49	1.46	6.12	35.00	47.26	8.13	1.19	0.00
5	81014	0.59	0.86	0.35	0.49	1.59	7.02	34.58	46.73	8.05	1.19	0.00
6	81014	0.61	0.80	0.35	0.49	1.00	6.03	29.08	50.55	10.90	1.59	0.00

Note. This test included a single prompt item scored on the analytic six-trait rubric. Blank responses were treated as omit. Illegible responses, non-English responses, and off-topic responses were treated as 0. Note that the N count in this table is higher than that in the test statistics table, due to the inclusion of students omitting a response in computations. The statistics presented in this table are based on census data.

P-value = Sum of all students' scores / (N × 6) for a trait

**Table 6.4.27**  
**2008 Spring AIMS Classical Item Analysis**  
**Writing CRT High School Prompt A**

Trait	N	P-Value	Adj <i>r</i>	Omit	Percentages												Invalid
					at 0	at 1	at 1.5	at 2	at 2.5	at 3	at 3.5	at 4	at 4.5	at 5	at 5.5	at 6	
1	73973	0.61	0.88	1.18	0.30	0.52	0.69	2.11	4.10	17.85	20.52	36.25	10.93	4.49	0.84	0.22	0.01
2	73973	0.60	0.88	1.18	0.30	0.56	0.75	2.31	4.16	17.60	20.29	37.32	10.42	4.10	0.78	0.21	0.01
3	73973	0.60	0.90	1.18	0.30	0.57	0.71	2.76	4.83	19.46	21.06	31.96	10.23	4.88	1.52	0.52	0.01
4	73973	0.60	0.90	1.18	0.30	0.56	0.71	2.73	4.73	20.45	21.21	31.85	9.69	4.59	1.47	0.52	0.01
5	73973	0.60	0.90	1.18	0.30	0.64	0.76	3.09	5.08	19.86	20.92	31.77	9.88	4.55	1.45	0.53	0.01
6	73973	0.60	0.88	1.18	0.30	0.57	0.81	2.41	4.45	17.48	21.24	36.73	9.91	3.95	0.75	0.21	0.01

Note. This test included a single prompt item scored on the analytic six-trait rubric. Blank responses were treated as omit. Illegible responses, non-English responses, and off-topic responses were treated as 0. Note that the N count in this table is higher than that in the test statistics table, due to the inclusion of students omitting a response in computations. The statistics presented in this table are based on census data.

P-value = Sum of all students' scores / (N × 6) for a trait

**Table 6.4.28**  
**2008 Spring AIMS Classical Item Analysis**  
**Writing CRT High School Prompt T**

Trait	N	P-Value	Adj <i>r</i>	Omit	Percentages												Invalid
					at 0	at 1	at 1.5	at 2	at 2.5	at 3	at 3.5	at 4	at 4.5	at 5	at 5.5	at 6	
1	2077	0.53	0.91	3.27	1.49	2.21	2.74	8.14	9.97	20.56	17.77	22.77	6.31	3.51	0.82	0.39	0.05
2	2077	0.53	0.91	3.27	1.49	2.31	3.08	8.62	9.44	19.21	17.67	23.93	6.40	3.42	0.77	0.34	0.05
3	2077	0.54	0.91	3.27	1.49	1.78	2.02	7.94	8.71	17.77	18.83	24.65	7.56	4.14	1.30	0.48	0.05
4	2077	0.54	0.92	3.27	1.49	1.64	1.54	7.70	9.39	20.75	17.81	23.06	7.66	3.80	1.30	0.53	0.05
5	2077	0.53	0.92	3.27	1.49	2.07	1.78	8.71	9.97	19.07	17.14	23.30	8.04	3.42	1.11	0.58	0.05
6	2077	0.53	0.91	3.27	1.49	2.36	3.13	7.22	7.94	17.57	18.92	26.91	6.93	3.27	0.53	0.39	0.05

Note. This test included a single prompt item scored on the analytic six-trait rubric. Blank responses were treated as omit. Illegible responses, non-English responses, and off-topic responses were treated as 0. Note that the N count in this table is higher than that in the test statistics table, due to the inclusion of students omitting a response in computations. The statistics presented in this table are based on census data.

P-value = Sum of all students' scores / (N × 6) for a trait

Note: Form T is the makeup prompt and is not reflective of the total population

**Table 6.4.29**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics NRT Grade 3**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	83179	0.99	0.17	0.59	0.14	98.73	0.29	-0.10	0.38	-0.10	0.45	-0.10
2	83179	0.70	0.37	0.49	0.38	70.07	9.26	-0.24	12.51	-0.21	7.74	-0.11
3	83179	0.39	0.23	0.29	0.51	38.53	26.02	-0.07	21.19	-0.09	13.72	-0.12
4	83179	0.50	0.30	0.38	0.52	50.39	6.75	-0.18	34.21	-0.12	8.11	-0.17
5	83179	0.78	0.37	0.51	0.38	78.04	1.47	-0.19	14.65	-0.16	5.45	-0.31
6	83179	0.82	0.29	0.43	0.59	81.65	2.13	-0.14	12.21	-0.18	3.39	-0.17
7	83179	0.96	0.25	0.56	0.41	95.74	1.61	-0.16	1.22	-0.14	0.95	-0.13
8	83179	0.73	0.46	0.61	1.05	73.04	11.51	-0.29	10.66	-0.25	3.72	-0.14
9	83179	0.59	0.42	0.53	0.26	59.17	2.31	-0.08	7.27	-0.10	30.89	-0.35
10	83179	0.77	0.53	0.74	0.35	77.34	7.61	-0.23	8.23	-0.32	6.46	-0.29
11	83179	0.87	0.41	0.65	0.25	86.63	9.28	-0.30	2.83	-0.20	0.99	-0.18
12	83179	0.82	0.46	0.67	0.22	82.38	3.73	-0.18	6.24	-0.25	7.41	-0.29
13	83179	0.90	0.40	0.68	0.23	89.55	2.78	-0.21	4.04	-0.20	3.39	-0.25
14	83179	0.94	0.34	0.68	0.67	94.11	1.43	-0.18	1.38	-0.20	2.41	-0.22
15	83179	0.65	0.20	0.26	0.27	65.42	8.90	-0.19	13.64	-0.07	11.73	-0.06
16	83179	0.57	0.32	0.41	0.53	57.43	14.08	-0.10	15.49	-0.18	12.47	-0.18
17	83179	0.83	0.28	0.42	0.38	82.79	9.99	-0.17	4.41	-0.16	2.41	-0.13
18	83179	0.63	0.37	0.47	0.55	63.29	16.70	-0.16	8.44	-0.15	10.99	-0.22
19	83179	0.85	0.36	0.54	0.25	84.70	5.91	-0.17	2.05	-0.20	7.03	-0.23
20	83179	0.64	0.42	0.54	0.50	64.04	12.89	-0.18	9.27	-0.17	13.28	-0.26
21	83179	0.46	0.38	0.48	0.63	45.83	25.40	-0.16	12.87	-0.25	15.26	-0.09
22	83179	0.60	0.38	0.48	0.45	60.39	21.64	-0.20	9.10	-0.20	8.40	-0.15
23	83179	0.86	0.43	0.67	1.28	86.15	3.68	-0.26	5.24	-0.22	3.63	-0.23
24	83179	0.88	0.33	0.54	0.17	88.18	4.62	-0.28	1.58	-0.18	5.43	-0.11
25	83179	0.89	0.38	0.63	0.78	88.88	2.18	-0.20	4.26	-0.20	3.88	-0.25

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.



**Table 6.4.30**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics NRT Grade 4**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb	
1	81559	0.83	0.40	0.59	0.03	83.20	8.75	-0.22	5.06	-0.22	2.95	-0.22
2	81559	0.86	0.36	0.56	0.06	85.96	1.49	-0.19	3.50	-0.24	8.97	-0.20
3	81559	0.81	0.22	0.31	0.06	81.04	1.36	-0.16	16.32	-0.14	1.19	-0.13
4	81559	0.85	0.41	0.62	0.06	84.71	6.84	-0.20	3.79	-0.24	4.57	-0.24
5	81559	0.57	0.30	0.38	0.16	57.15	4.27	-0.22	8.80	-0.19	29.61	-0.11
6	81559	0.85	0.32	0.49	0.03	84.80	4.58	-0.18	7.07	-0.17	3.52	-0.17
7	81559	0.59	0.49	0.62	0.06	59.48	14.43	-0.11	14.57	-0.35	11.44	-0.25
8	81559	0.78	0.48	0.68	0.04	78.31	13.96	-0.35	3.57	-0.23	4.09	-0.17
9	81559	0.79	0.45	0.63	0.09	78.98	3.91	-0.22	11.79	-0.26	5.21	-0.25
10	81559	0.87	0.27	0.44	0.04	87.22	3.64	-0.14	5.89	-0.17	3.19	-0.13
11	81559	0.94	0.34	0.69	0.09	94.16	1.69	-0.20	2.75	-0.21	1.29	-0.18
12	81559	0.85	0.45	0.68	0.03	84.83	5.03	-0.26	4.76	-0.25	5.34	-0.22
13	81559	0.89	0.40	0.66	0.06	89.11	2.65	-0.20	3.46	-0.22	4.70	-0.23
14	81559	0.60	0.31	0.39	0.05	59.74	7.28	-0.23	4.96	-0.19	27.95	-0.11
15	81559	0.74	0.42	0.57	0.06	73.98	15.95	-0.21	4.84	-0.25	5.15	-0.24
16	81559	0.65	0.46	0.59	0.07	64.72	21.39	-0.24	7.79	-0.29	6.00	-0.18
17	81559	0.58	0.37	0.47	0.09	58.00	15.56	-0.18	12.08	-0.13	14.24	-0.21
18	81559	0.47	0.39	0.48	0.09	46.68	25.90	-0.08	15.96	-0.24	11.35	-0.21
19	81559	0.70	0.37	0.48	0.34	69.67	6.19	-0.27	8.65	-0.21	15.10	-0.12
20	81559	0.92	0.30	0.55	0.05	91.75	2.97	-0.18	2.93	-0.16	2.24	-0.16
21	81559	0.61	0.43	0.55	0.05	60.54	5.03	-0.17	6.74	-0.20	27.60	-0.28
22	81559	0.78	0.42	0.59	0.11	77.52	8.11	-0.25	6.60	-0.23	7.65	-0.19
23	81559	0.47	0.25	0.31	0.09	47.17	11.67	-0.16	14.85	-0.11	26.18	-0.07
24	81559	0.65	0.37	0.48	0.14	65.44	18.20	-0.13	8.24	-0.23	7.95	-0.22
25	81559	0.68	0.37	0.48	0.04	68.37	11.87	-0.24	13.89	-0.14	5.81	-0.19

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.31**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics NRT Grade 5**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	81224	0.70	0.31	0.41	0.02	70.00	2.96	-0.23	13.91	-0.20	13.11	-0.11	
2	81224	0.54	0.34	0.43	0.06	54.47	6.78	-0.19	18.99	-0.11	19.70	-0.19	
3	81224	0.51	0.33	0.41	0.06	51.06	16.54	-0.18	16.65	-0.18	15.67	-0.08	
4	81224	0.43	0.37	0.47	0.09	42.65	25.98	-0.03	17.35	-0.21	13.93	-0.25	
5	81224	0.77	0.38	0.53	0.06	76.85	9.96	-0.18	8.08	-0.17	5.04	-0.27	
6	81224	0.91	0.35	0.63	0.04	91.13	3.81	-0.26	2.39	-0.16	2.63	-0.16	
7	81224	0.78	0.47	0.66	0.08	78.10	8.95	-0.25	6.68	-0.28	6.19	-0.22	
8	81224	0.84	0.44	0.67	0.09	84.22	6.91	-0.25	5.47	-0.25	3.31	-0.23	
9	81224	0.81	0.52	0.75	0.01	80.84	9.81	-0.37	4.46	-0.25	4.87	-0.21	
10	81224	0.59	0.47	0.59	0.03	58.84	12.48	-0.12	21.75	-0.37	6.88	-0.15	
11	81224	0.92	0.24	0.43	0.01	92.01	2.68	-0.13	3.52	-0.13	1.77	-0.14	
12	81224	0.67	0.40	0.52	0.05	66.86	8.49	-0.26	7.66	-0.23	16.93	-0.15	
13	81224	0.72	0.46	0.62	0.05	71.66	5.54	-0.21	10.87	-0.24	11.86	-0.27	
14	81224	0.64	0.53	0.68	0.04	64.43	13.86	-0.40	13.91	-0.22	7.73	-0.14	
15	81224	0.67	0.47	0.61	0.05	67.19	3.28	-0.22	4.35	-0.25	25.11	-0.30	
16	81224	0.62	0.47	0.61	0.11	61.88	23.33	-0.24	7.65	-0.24	7.03	-0.25	
17	81224	0.82	0.44	0.65	0.00	81.52	8.43	-0.29	5.74	-0.26	4.29	-0.16	
18	81224	0.77	0.29	0.40	0.06	77.21	3.26	-0.14	12.23	-0.16	7.22	-0.17	
19	81224	0.88	0.34	0.55	0.01	87.50	5.06	-0.22	3.47	-0.17	3.93	-0.17	
20	81224	0.69	0.42	0.56	0.04	69.34	11.04	-0.21	14.66	-0.23	4.91	-0.23	
21	81224	0.85	0.40	0.62	0.05	85.16	3.59	-0.22	4.18	-0.24	7.00	-0.21	
22	81224	0.59	0.36	0.46	0.03	58.88	16.42	-0.24	13.65	-0.13	11.00	-0.15	
23	81224	0.59	0.37	0.47	0.05	59.11	7.06	-0.19	13.43	-0.16	20.34	-0.19	
24	81224	0.51	0.47	0.59	0.07	51.20	4.24	-0.26	39.29	-0.25	5.19	-0.28	
25	81224	0.61	0.40	0.50	0.17	60.51	12.60	-0.19	11.65	-0.17	15.07	-0.21	

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.32**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics NRT Grade 6**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	81555	0.78	0.51	0.71	0.06	77.56	11.79	-0.30	7.94	-0.30	2.64	-0.20
2	81555	0.63	0.40	0.51	0.07	63.28	8.87	-0.15	16.35	-0.17	11.41	-0.28
3	81555	0.67	0.45	0.59	0.05	66.68	15.19	-0.31	3.29	-0.11	14.78	-0.24
4	81555	0.79	0.47	0.66	0.06	78.58	7.48	-0.28	6.70	-0.27	7.18	-0.19
5	81555	0.73	0.45	0.60	0.03	73.28	6.15	-0.20	10.59	-0.31	9.94	-0.18
6	81555	0.55	0.35	0.45	0.07	54.59	20.43	-0.26	18.24	-0.05	6.66	-0.20
7	81555	0.39	0.35	0.45	0.07	39.35	15.07	-0.06	19.26	-0.17	26.24	-0.19
8	81555	0.75	0.40	0.54	0.20	74.79	9.96	-0.16	5.06	-0.20	9.98	-0.27
9	81555	0.81	0.48	0.69	0.05	80.63	6.27	-0.30	8.21	-0.28	4.83	-0.19
10	81555	0.94	0.32	0.62	0.01	93.72	0.96	-0.11	1.12	-0.16	4.17	-0.25
11	81555	0.78	0.48	0.67	0.02	78.01	10.40	-0.30	5.97	-0.27	5.60	-0.20
12	81555	0.78	0.36	0.50	0.04	77.69	6.18	-0.23	11.88	-0.14	4.21	-0.23
13	81555	0.67	0.42	0.54	0.04	66.74	5.00	-0.18	11.77	-0.26	16.44	-0.20
14	81555	0.78	0.48	0.67	0.07	78.04	2.49	-0.20	5.73	-0.19	13.66	-0.35
15	81555	0.68	0.44	0.58	0.02	68.43	8.70	-0.23	15.56	-0.19	7.27	-0.28
16	81555	0.67	0.34	0.44	0.04	67.00	12.19	-0.20	8.82	-0.17	11.93	-0.15
17	81555	0.72	0.55	0.73	0.03	71.64	13.83	-0.28	4.53	-0.23	9.96	-0.34
18	81555	0.56	0.33	0.42	0.05	56.01	5.92	-0.25	8.46	-0.25	29.55	-0.08
19	81555	0.68	0.49	0.64	0.05	68.15	13.90	-0.18	9.43	-0.30	8.44	-0.27
20	81555	0.54	0.39	0.49	0.07	54.40	23.96	-0.25	11.37	-0.11	10.19	-0.17
21	81555	0.71	0.39	0.52	0.03	70.93	13.05	-0.24	5.52	-0.21	10.45	-0.16
22	81555	0.60	0.35	0.45	0.04	60.48	21.57	-0.14	11.00	-0.30	6.91	-0.08
23	81555	0.75	0.49	0.67	0.04	75.13	8.72	-0.25	9.33	-0.29	6.76	-0.24
24	81555	0.71	0.54	0.71	0.06	71.36	11.18	-0.24	8.69	-0.26	8.69	-0.33
25	81555	0.51	0.35	0.43	0.09	51.37	14.36	-0.18	16.83	-0.15	17.34	-0.14

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.33**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics NRT Grade 7**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	80800	0.42	0.39	0.49	0.04	41.73	14.28	-0.21	25.27	0.00	18.68	-0.31	
2	80800	0.58	0.35	0.45	0.06	57.96	11.08	-0.11	11.83	-0.26	19.07	-0.14	
3	80800	0.62	0.40	0.51	0.05	61.91	12.32	-0.07	10.77	-0.28	14.95	-0.23	
4	80800	0.70	0.39	0.52	0.03	69.85	5.10	-0.15	13.14	-0.19	11.88	-0.25	
5	80800	0.62	0.44	0.56	0.05	61.98	7.35	-0.16	23.92	-0.32	6.70	-0.13	
6	80800	0.82	0.36	0.53	0.02	82.25	5.14	-0.22	6.29	-0.15	6.29	-0.21	
7	80800	0.40	0.33	0.42	0.08	39.64	11.95	-0.18	32.11	-0.04	16.20	-0.23	
8	80800	0.55	0.43	0.54	0.06	55.14	10.06	-0.06	24.84	-0.24	9.90	-0.31	
9	80800	0.41	0.42	0.53	0.04	41.28	9.62	-0.09	25.69	-0.28	23.36	-0.14	
10	80800	0.60	0.51	0.64	0.08	59.79	25.56	-0.34	9.86	-0.21	4.69	-0.17	
11	80800	0.83	0.33	0.49	0.03	82.97	8.01	-0.18	4.69	-0.18	4.29	-0.18	
12	80800	0.80	0.41	0.59	0.03	80.30	9.93	-0.23	5.69	-0.18	4.03	-0.26	
13	80800	0.69	0.43	0.56	0.05	69.22	7.18	-0.11	13.38	-0.23	10.15	-0.30	
14	80800	0.72	0.46	0.61	0.03	72.21	10.63	-0.25	12.62	-0.27	4.51	-0.19	
15	80800	0.83	0.43	0.64	0.04	83.23	7.82	-0.28	5.57	-0.23	3.33	-0.19	
16	80800	0.73	0.42	0.57	0.03	73.31	12.57	-0.26	6.64	-0.23	7.44	-0.16	
17	80800	0.39	0.39	0.49	0.07	39.43	22.89	-0.19	21.02	-0.18	16.57	-0.10	
18	80800	0.36	0.31	0.39	0.05	36.11	6.92	-0.09	46.49	-0.17	10.41	-0.12	
19	80800	0.53	0.32	0.41	0.01	52.84	13.13	-0.21	27.97	-0.14	6.05	-0.13	
20	80800	0.45	0.34	0.43	0.04	44.62	36.01	-0.34	8.69	-0.04	10.63	0.02	
21	80800	0.66	0.46	0.59	0.09	66.28	14.11	-0.24	10.64	-0.24	8.87	-0.19	
22	80800	0.89	0.35	0.59	0.03	89.33	3.28	-0.20	3.40	-0.19	3.94	-0.19	
23	80800	0.46	0.37	0.46	0.09	45.83	7.04	-0.10	22.96	-0.04	24.07	-0.32	
24	80800	0.53	0.46	0.58	0.08	52.96	17.70	-0.20	19.35	-0.19	9.89	-0.26	
25	80800	0.46	0.43	0.54	0.04	45.54	14.63	-0.18	24.40	-0.21	15.37	-0.17	

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.34**  
**2008 Spring AIMS Classical Item Analysis**  
**Mathematics NRT Grade 8**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	80496	0.73	0.36	0.49	0.06	72.51	4.31	-0.18	12.85	-0.16	10.27	-0.23
2	80496	0.49	0.41	0.52	0.03	48.69	11.69	-0.13	28.69	-0.19	10.89	-0.24
3	80496	0.80	0.39	0.56	0.06	79.74	4.90	-0.12	7.18	-0.27	8.13	-0.22
4	80496	0.72	0.39	0.52	0.09	72.38	6.78	-0.15	9.50	-0.22	11.25	-0.23
5	80496	0.58	0.51	0.64	0.05	57.93	16.90	-0.33	12.50	-0.25	12.60	-0.13
6	80496	0.73	0.40	0.53	0.06	72.71	6.63	-0.25	9.36	-0.23	11.24	-0.15
7	80496	0.82	0.35	0.51	0.02	81.93	1.61	-0.14	13.27	-0.25	3.18	-0.19
8	80496	0.77	0.46	0.64	0.05	77.04	5.95	-0.22	11.49	-0.30	5.47	-0.19
9	80496	0.58	0.30	0.38	0.07	57.57	24.63	-0.05	5.71	-0.24	12.01	-0.22
10	80496	0.86	0.39	0.61	0.02	86.11	4.17	-0.25	3.60	-0.23	6.08	-0.18
11	80496	0.65	0.43	0.56	0.07	65.00	9.13	-0.26	17.54	-0.19	8.26	-0.22
12	80496	0.79	0.38	0.53	0.04	78.81	11.63	-0.19	5.01	-0.21	4.50	-0.22
13	80496	0.55	0.27	0.34	0.05	54.95	8.32	-0.05	9.80	-0.03	26.86	-0.26
14	80496	0.71	0.36	0.48	0.04	70.89	8.29	-0.27	16.24	-0.13	4.53	-0.19
15	80496	0.36	0.31	0.40	0.03	36.49	49.65	-0.06	6.32	-0.26	7.49	-0.21
16	80496	0.75	0.31	0.42	0.04	75.49	6.97	-0.20	12.01	-0.07	5.48	-0.26
17	80496	0.86	0.32	0.50	0.02	86.23	7.47	-0.19	3.87	-0.19	2.40	-0.15
18	80496	0.50	0.42	0.52	0.04	49.65	20.27	-0.18	23.52	-0.18	6.51	-0.24
19	80496	0.54	0.40	0.50	0.08	53.59	19.26	-0.37	11.55	-0.20	15.52	0.03
20	80496	0.58	0.45	0.56	0.01	57.92	4.46	-0.23	33.93	-0.31	3.66	-0.13
21	80496	0.47	0.32	0.40	0.05	47.14	15.78	-0.17	26.05	-0.13	10.97	-0.12
22	80496	0.35	0.32	0.41	0.05	35.11	37.06	-0.26	17.84	-0.11	9.92	0.05
23	80496	0.59	0.44	0.56	0.06	59.12	5.74	-0.21	12.54	-0.24	22.52	-0.21
24	80496	0.64	0.31	0.40	0.07	64.00	11.78	-0.12	10.45	-0.17	13.69	-0.17
25	80496	0.32	0.25	0.33	0.03	31.98	11.18	-0.07	30.90	-0.04	25.89	-0.18

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.35**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading NRT Grade 3**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb	
1	83182	0.93	0.35	0.66	0.10	93.27	5.12	-0.28	1.50	-0.20	0.00	0.00	
2	83182	0.74	0.40	0.54	0.22	73.67	4.73	-0.23	21.38	-0.30	0.00	0.00	
3	83182	0.85	0.34	0.51	0.17	84.56	4.80	-0.23	10.47	-0.23	0.00	0.00	
4	83182	0.94	0.32	0.64	0.14	94.05	2.77	-0.24	3.04	-0.21	0.00	0.00	
5	83182	0.81	0.36	0.53	0.17	80.75	8.80	-0.26	10.27	-0.23	0.00	0.00	
6	83182	0.72	0.39	0.52	0.61	71.91	11.84	-0.28	15.64	-0.23	0.00	0.00	
7	83182	0.55	0.30	0.38	1.33	54.86	16.12	-0.26	27.69	-0.11	0.00	0.00	
8	83182	0.62	0.28	0.36	0.20	61.87	4.78	-0.25	26.94	-0.11	6.20	-0.15	
9	83182	0.43	0.35	0.44	0.29	43.05	31.61	-0.16	13.54	-0.19	11.50	-0.10	
10	83182	0.32	0.31	0.41	2.15	31.56	10.33	-0.26	32.12	0.04	23.82	-0.16	
11	83182	0.50	0.27	0.34	0.41	49.70	21.98	-0.09	9.85	-0.27	18.06	-0.03	
12	83182	0.62	0.28	0.36	0.81	62.20	7.44	-0.29	7.03	-0.08	22.50	-0.09	
13	83182	0.63	0.48	0.61	0.41	63.38	10.25	-0.24	11.17	-0.32	10.34	-0.15	
14	83182	0.77	0.48	0.67	0.34	77.01	8.06	-0.28	5.07	-0.25	9.52	-0.24	
15	83182	0.65	0.50	0.64	0.65	64.56	9.82	-0.26	8.44	-0.26	16.53	-0.23	
16	83182	0.83	0.32	0.47	0.47	82.93	6.66	-0.15	4.71	-0.17	5.21	-0.19	
17	83182	0.50	0.29	0.36	0.93	50.17	27.97	-0.01	11.38	-0.27	9.54	-0.15	
18	83182	0.70	0.50	0.65	0.32	69.68	5.39	-0.27	6.68	-0.22	17.92	-0.28	
19	83182	0.72	0.49	0.65	0.32	72.16	8.55	-0.26	10.86	-0.25	8.11	-0.24	
20	83182	0.44	0.29	0.37	0.63	44.01	16.24	-0.19	24.98	0.02	14.13	-0.24	
21	83182	0.52	0.36	0.46	1.21	52.20	19.68	-0.19	9.29	-0.18	17.62	-0.12	
22	83182	0.48	0.48	0.60	0.94	47.93	6.48	-0.24	31.07	-0.20	13.56	-0.26	
23	83182	0.58	0.38	0.48	1.33	58.21	20.21	-0.14	13.51	-0.25	6.72	-0.18	
24	83182	0.67	0.50	0.65	0.85	67.18	7.36	-0.27	13.09	-0.27	11.50	-0.21	
25	83182	0.71	0.33	0.44	0.23	71.04	11.60	-0.30	2.16	-0.22	14.95	-0.06	

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.36**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading NRT Grade 4**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	81580	0.81	0.42	0.60	0.02	80.64	7.71	-0.20	6.93	-0.26	4.69	-0.20	
2	81580	0.84	0.41	0.61	0.02	83.89	8.00	-0.21	5.20	-0.26	2.88	-0.21	
3	81580	0.85	0.45	0.69	0.05	85.19	10.16	-0.33	1.73	-0.20	2.85	-0.19	
4	81580	0.67	0.31	0.40	0.06	67.39	15.00	-0.15	7.11	-0.18	10.42	-0.15	
5	81580	0.94	0.37	0.73	0.02	93.98	1.74	-0.19	2.86	-0.23	1.39	-0.20	
6	81580	0.78	0.49	0.69	0.11	77.88	10.70	-0.26	4.27	-0.27	7.02	-0.26	
7	81580	0.77	0.43	0.60	0.10	77.29	12.74	-0.19	5.13	-0.27	4.71	-0.26	
8	81580	0.90	0.47	0.80	0.12	89.74	2.85	-0.26	3.65	-0.24	3.62	-0.29	
9	81580	0.52	0.37	0.47	0.34	52.43	9.70	-0.19	16.88	-0.25	20.64	-0.08	
10	81580	0.80	0.44	0.63	0.12	80.15	8.47	-0.21	4.99	-0.24	6.27	-0.27	
11	81580	0.75	0.46	0.63	0.02	75.48	7.97	-0.24	12.60	-0.26	3.92	-0.23	
12	81580	0.86	0.45	0.70	0.02	85.88	3.41	-0.23	4.47	-0.26	6.20	-0.25	
13	81580	0.79	0.46	0.66	0.04	79.29	5.58	-0.22	10.35	-0.25	4.71	-0.28	
14	81580	0.59	0.40	0.50	0.07	58.57	20.19	-0.19	8.83	-0.26	12.30	-0.14	
15	81580	0.65	0.43	0.55	0.04	65.19	11.97	-0.16	7.12	-0.16	15.64	-0.30	
16	81580	0.76	0.35	0.48	0.02	76.26	6.83	-0.29	13.75	-0.10	3.14	-0.22	
17	81580	0.73	0.59	0.80	0.05	72.77	7.34	-0.25	9.96	-0.29	9.86	-0.38	
18	81580	0.77	0.37	0.51	0.08	77.32	12.58	-0.19	6.66	-0.19	3.34	-0.23	
19	81580	0.51	0.16	0.20	0.13	50.72	13.04	-0.18	24.03	0.03	12.05	-0.10	
20	81580	0.71	0.53	0.70	0.09	71.08	10.62	-0.23	6.30	-0.32	11.87	-0.28	
21	81580	0.39	0.25	0.31	0.12	38.56	22.66	-0.06	12.20	-0.18	26.42	-0.08	
22	81580	0.68	0.47	0.61	0.18	68.16	9.89	-0.25	10.32	-0.23	11.43	-0.23	
23	81580	0.60	0.54	0.68	0.10	59.96	7.96	-0.36	21.87	-0.25	10.11	-0.20	
24	81580	0.62	0.47	0.60	0.14	62.06	7.80	-0.21	23.13	-0.24	6.87	-0.27	
25	81580	0.62	0.45	0.57	0.20	61.69	24.77	-0.24	6.95	-0.22	6.37	-0.24	

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.37**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading NRT Grade 5**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb	
1	81265	0.58	0.40	0.50	0.07	58.48	8.40	-0.15	8.84	-0.11	24.21	-0.28	
2	81265	0.83	0.33	0.49	0.02	83.40	6.80	-0.15	5.55	-0.15	4.21	-0.25	
3	81265	0.50	0.33	0.41	0.07	50.26	19.62	-0.27	9.95	-0.05	20.10	-0.11	
4	81265	0.82	0.44	0.65	0.03	82.32	3.89	-0.28	8.82	-0.20	4.94	-0.26	
5	81265	0.74	0.39	0.52	0.02	73.87	15.25	-0.23	3.83	-0.21	7.02	-0.19	
6	81265	0.74	0.39	0.52	0.07	73.99	12.21	-0.18	8.79	-0.19	4.93	-0.25	
7	81265	0.60	0.35	0.44	0.08	59.63	15.10	-0.23	3.96	-0.24	21.21	-0.10	
8	81265	0.67	0.41	0.53	0.04	67.49	7.66	-0.26	7.52	-0.23	17.29	-0.17	
9	81265	0.83	0.45	0.67	0.05	83.09	4.99	-0.26	5.86	-0.23	6.00	-0.24	
10	81265	0.74	0.39	0.53	0.01	73.53	16.79	-0.26	3.00	-0.19	6.67	-0.18	
11	81265	0.69	0.44	0.58	0.02	69.14	1.83	-0.22	23.80	-0.29	5.20	-0.23	
12	81265	0.90	0.36	0.62	0.01	89.88	1.52	-0.20	3.95	-0.21	4.62	-0.22	
13	81265	0.81	0.26	0.38	0.01	81.30	2.83	-0.15	3.29	-0.20	12.52	-0.13	
14	81265	0.84	0.45	0.68	0.01	84.14	8.81	-0.38	3.98	-0.13	3.05	-0.18	
15	81265	0.51	0.22	0.27	0.06	50.72	7.90	-0.14	10.27	-0.17	31.05	-0.04	
16	81265	0.80	0.45	0.64	0.01	79.79	3.91	-0.25	8.92	-0.22	7.36	-0.27	
17	81265	0.84	0.50	0.75	0.34	84.11	7.70	-0.33	4.16	-0.25	3.67	-0.22	
18	81265	0.70	0.53	0.70	0.03	70.04	5.73	-0.26	19.48	-0.33	4.70	-0.24	
19	81265	0.60	0.23	0.29	0.07	60.21	9.73	-0.08	23.85	-0.06	6.13	-0.25	
20	81265	0.57	0.45	0.57	0.08	56.69	19.88	-0.15	7.57	-0.28	15.76	-0.24	
21	81265	0.45	0.38	0.48	0.07	44.99	19.97	-0.16	21.68	-0.15	13.27	-0.19	
22	81265	0.40	0.27	0.35	0.06	40.22	15.59	-0.16	19.03	-0.12	25.08	-0.06	
23	81265	0.71	0.47	0.63	0.02	71.28	4.56	-0.14	12.21	-0.36	11.93	-0.20	
24	81265	0.59	0.28	0.36	0.01	59.11	17.79	-0.26	13.13	-0.01	9.93	-0.13	
25	81265	0.37	0.18	0.24	0.04	37.10	27.03	-0.02	21.73	-0.05	14.07	-0.18	

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.



**Table 6.4.38**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading NRT Grade 6**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	81583	0.72	0.39	0.51	0.02	71.65	7.05	-0.21	6.58	-0.25	14.70	-0.17
2	81583	0.83	0.35	0.52	0.02	82.85	11.48	-0.19	2.39	-0.19	3.25	-0.23
3	81583	0.92	0.43	0.79	0.01	92.01	2.58	-0.23	3.17	-0.27	2.21	-0.22
4	81583	0.63	0.37	0.47	0.06	62.63	12.00	-0.17	16.11	-0.17	9.19	-0.21
5	81583	0.74	0.35	0.48	0.01	74.40	9.30	-0.21	6.30	-0.12	9.99	-0.21
6	81583	0.73	0.44	0.59	0.08	73.22	6.73	-0.24	15.81	-0.23	4.15	-0.26
7	81583	0.82	0.41	0.61	0.01	82.44	8.01	-0.33	8.18	-0.18	1.35	-0.15
8	81583	0.89	0.32	0.53	0.02	88.83	2.88	-0.20	5.47	-0.16	2.79	-0.19
9	81583	0.54	0.33	0.41	0.03	54.29	23.30	-0.17	5.54	-0.25	16.83	-0.09
10	81583	0.78	0.31	0.44	0.04	78.26	2.41	-0.24	3.07	-0.16	16.21	-0.17
11	81583	0.58	0.37	0.47	0.05	57.73	9.24	-0.21	20.37	-0.14	12.60	-0.20
12	81583	0.92	0.37	0.69	0.06	92.40	2.79	-0.19	2.76	-0.22	1.98	-0.21
13	81583	0.86	0.46	0.73	0.03	86.42	4.29	-0.25	4.45	-0.24	4.80	-0.27
14	81583	0.85	0.44	0.67	0.01	84.81	9.20	-0.38	1.28	-0.16	4.70	-0.14
15	81583	0.65	0.35	0.45	0.02	64.69	14.05	-0.12	11.12	-0.19	10.11	-0.22
16	81583	0.67	0.28	0.36	0.02	66.99	20.09	-0.02	4.97	-0.23	7.91	-0.26
17	81583	0.79	0.35	0.50	0.06	79.16	5.96	-0.17	9.14	-0.20	5.68	-0.19
18	81583	0.65	0.47	0.61	0.05	64.94	12.86	-0.34	13.92	-0.18	8.21	-0.18
19	81583	0.52	0.32	0.41	0.04	51.75	29.98	-0.06	12.40	-0.22	5.80	-0.27
20	81583	0.64	0.47	0.61	0.05	64.05	7.34	-0.26	15.75	-0.23	12.79	-0.23
21	81583	0.52	0.30	0.38	0.05	52.16	33.38	-0.05	8.59	-0.25	5.78	-0.23
22	81583	0.56	0.37	0.47	0.04	56.32	11.48	-0.18	16.66	-0.24	15.49	-0.10
23	81583	0.47	0.25	0.31	0.09	47.32	9.10	-0.19	17.10	-0.11	26.38	-0.06
24	81583	0.70	0.49	0.64	0.07	69.82	11.61	-0.27	8.99	-0.26	9.48	-0.21
25	81583	0.45	0.26	0.33	0.09	45.05	14.60	-0.15	19.55	-0.16	20.70	-0.03

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.39**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading NRT Grade 7**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key		Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb	
1	80820	0.91	0.29	0.51	0.02	90.97	3.16	-0.13	2.30	-0.14	3.55	-0.22	
2	80820	0.60	0.28	0.35	0.02	60.00	33.33	-0.14	4.43	-0.23	2.21	-0.17	
3	80820	0.83	0.42	0.62	0.01	83.42	12.67	-0.31	1.62	-0.17	2.27	-0.20	
4	80820	0.73	0.44	0.59	0.01	72.81	5.76	-0.26	6.94	-0.27	14.48	-0.19	
5	80820	0.71	0.50	0.67	0.08	71.13	6.22	-0.26	9.55	-0.31	13.01	-0.22	
6	80820	0.70	0.52	0.69	0.07	69.55	8.60	-0.29	16.30	-0.27	5.47	-0.26	
7	80820	0.71	0.50	0.67	0.09	71.48	6.02	-0.25	14.29	-0.28	8.11	-0.25	
8	80820	0.66	0.43	0.56	0.07	66.41	20.15	-0.14	7.49	-0.29	5.87	-0.29	
9	80820	0.66	0.42	0.55	0.08	65.70	13.76	-0.18	5.83	-0.29	14.63	-0.19	
10	80820	0.55	0.25	0.32	0.11	55.40	6.48	-0.22	26.57	-0.09	11.44	-0.09	
11	80820	0.52	0.38	0.48	0.35	51.50	29.37	-0.13	7.25	-0.28	11.53	-0.16	
12	80820	0.34	0.25	0.32	0.03	33.97	8.55	-0.29	38.12	0.04	19.32	-0.14	
13	80820	0.70	0.56	0.74	0.03	69.69	12.28	-0.30	7.57	-0.26	10.41	-0.30	
14	80820	0.69	0.50	0.65	0.05	68.81	16.54	-0.22	8.96	-0.31	5.62	-0.26	
15	80820	0.66	0.51	0.65	0.05	66.17	10.16	-0.30	12.88	-0.23	10.73	-0.23	
16	80820	0.65	0.54	0.69	0.05	64.84	9.10	-0.27	6.23	-0.27	19.77	-0.28	
17	80820	0.68	0.50	0.65	0.05	68.03	8.56	-0.30	16.65	-0.23	6.70	-0.25	
18	80820	0.54	0.38	0.48	0.07	53.76	21.40	-0.10	13.23	-0.22	11.52	-0.23	
19	80820	0.53	0.44	0.55	0.12	53.49	16.66	-0.23	13.20	-0.23	16.52	-0.15	
20	80820	0.34	0.27	0.35	0.06	33.71	15.06	-0.25	16.92	-0.16	34.24	0.04	
21	80820	0.62	0.46	0.58	0.08	61.90	11.20	-0.24	13.42	-0.20	13.39	-0.23	
22	80820	0.75	0.47	0.64	0.05	74.73	11.34	-0.29	8.54	-0.29	5.34	-0.14	
23	80820	0.75	0.45	0.61	0.05	74.85	4.72	-0.27	9.94	-0.25	10.44	-0.21	
24	80820	0.65	0.47	0.61	0.10	65.18	10.70	-0.22	8.53	-0.27	15.47	-0.22	
25	80820	0.58	0.38	0.48	0.05	58.35	10.00	-0.25	11.36	-0.14	20.22	-0.16	

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.40**  
**2008 Spring AIMS Classical Item Analysis**  
**Reading NRT Grade 8**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	80525	0.88	0.30	0.50	0.02	88.30	1.06	-0.16	4.28	-0.11	6.33	-0.24
2	80525	0.95	0.30	0.63	0.00	94.54	3.26	-0.19	0.72	-0.15	1.47	-0.19
3	80525	0.88	0.34	0.55	0.02	87.66	3.59	-0.21	6.49	-0.17	2.24	-0.19
4	80525	0.90	0.30	0.51	0.02	89.55	4.23	-0.14	1.13	-0.16	5.07	-0.21
5	80525	0.92	0.25	0.47	0.00	92.34	0.58	-0.13	3.39	-0.19	3.68	-0.13
6	80525	0.60	0.27	0.35	0.02	59.84	5.27	-0.26	30.51	-0.09	4.35	-0.16
7	80525	0.63	0.41	0.52	0.05	62.58	15.57	-0.11	8.80	-0.27	12.98	-0.24
8	80525	0.58	0.40	0.51	0.05	58.30	34.50	-0.24	3.45	-0.26	3.70	-0.19
9	80525	0.55	0.38	0.47	0.02	55.04	19.14	-0.16	15.84	-0.17	9.96	-0.21
10	80525	0.65	0.46	0.59	0.10	64.65	13.38	-0.24	15.29	-0.24	6.57	-0.20
11	80525	0.81	0.44	0.63	0.04	80.71	5.37	-0.27	10.15	-0.24	3.72	-0.21
12	80525	0.56	0.27	0.34	0.03	56.28	5.53	-0.28	12.71	-0.18	25.44	-0.02
13	80525	0.69	0.40	0.53	0.05	68.54	8.03	-0.13	9.23	-0.20	14.14	-0.27
14	80525	0.89	0.44	0.75	0.06	89.49	2.81	-0.27	2.42	-0.23	5.22	-0.25
15	80525	0.74	0.51	0.69	0.03	73.81	8.82	-0.23	10.72	-0.31	6.61	-0.25
16	80525	0.72	0.38	0.50	0.03	72.30	9.12	-0.16	4.84	-0.21	13.69	-0.22
17	80525	0.51	0.36	0.45	0.09	50.67	10.45	-0.19	29.98	-0.09	8.80	-0.27
18	80525	0.83	0.41	0.61	0.07	82.89	5.29	-0.21	6.73	-0.20	5.02	-0.26
19	80525	0.61	0.39	0.49	0.03	61.11	12.35	-0.27	5.65	-0.28	20.84	-0.09
20	80525	0.82	0.49	0.72	0.03	81.64	6.75	-0.26	5.81	-0.29	5.77	-0.24
21	80525	0.41	0.28	0.36	0.06	40.82	14.87	-0.09	26.06	-0.13	18.19	-0.12
22	80525	0.60	0.36	0.46	0.31	59.88	11.74	-0.19	14.74	-0.24	13.32	-0.08
23	80525	0.56	0.23	0.29	0.03	56.46	5.18	-0.26	6.95	-0.21	31.36	-0.01
24	80525	0.67	0.40	0.52	0.07	66.76	11.21	-0.20	9.38	-0.27	12.56	-0.15
25	80525	0.65	0.44	0.56	0.07	64.94	9.94	-0.22	14.46	-0.20	10.56	-0.24

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.41**  
**2008 Spring AIMS Classical Item Analysis**  
**Language NRT Grade 3**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	83182	0.82	0.44	0.65	0.15	82.02	15.09	-0.37	2.72	-0.24	0.00	0.00
2	83182	0.94	0.35	0.69	0.30	93.78	2.67	-0.23	3.24	-0.26	0.00	0.00
3	83182	0.62	0.28	0.35	0.21	62.49	29.54	-0.13	7.75	-0.27	0.00	0.00
4	83182	0.94	0.33	0.65	0.22	93.67	4.41	-0.25	1.69	-0.21	0.00	0.00
5	83182	0.48	0.31	0.38	0.55	48.20	31.20	-0.19	20.05	-0.15	0.00	0.00
6	83182	0.27	0.27	0.36	0.25	27.11	31.32	0.07	24.62	-0.18	16.69	-0.19
7	83182	0.46	0.34	0.42	2.64	46.07	30.43	-0.11	9.09	-0.23	11.75	-0.15
8	83182	0.75	0.45	0.61	0.58	75.03	7.21	-0.25	13.06	-0.26	3.75	-0.20
9	83182	0.76	0.51	0.70	0.44	76.08	7.57	-0.25	11.28	-0.32	4.61	-0.23
10	83182	0.46	0.16	0.20	0.54	45.78	9.13	-0.21	13.36	-0.13	31.17	0.06
11	83182	0.71	0.48	0.64	0.25	70.65	14.92	-0.36	3.10	-0.22	11.06	-0.16
12	83182	0.44	0.34	0.43	0.58	44.37	15.58	-0.12	18.91	-0.11	20.55	-0.21
13	83182	0.83	0.48	0.72	0.33	82.95	8.70	-0.31	4.33	-0.24	3.69	-0.23
14	83182	0.42	0.18	0.23	0.68	41.79	20.93	0.00	10.95	-0.27	25.64	0.00
15	83182	0.58	0.35	0.45	0.34	58.31	13.99	-0.20	16.91	-0.15	10.46	-0.15
16	83182	0.81	0.46	0.66	0.12	80.67	7.85	-0.31	3.68	-0.23	7.59	-0.20
17	83182	0.82	0.50	0.74	0.40	82.12	10.13	-0.33	4.30	-0.26	3.04	-0.24
18	83182	0.55	0.34	0.43	0.93	54.90	20.33	-0.24	15.48	-0.07	8.35	-0.16
19	83182	0.46	0.28	0.35	0.43	46.36	13.90	-0.14	7.78	-0.25	31.52	-0.05
20	83182	0.71	0.43	0.57	0.60	71.06	6.91	-0.25	9.34	-0.23	12.08	-0.20

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.42**  
**2008 Spring AIMS Classical Item Analysis**  
**Language NRT Grade 4**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	81580	0.83	0.39	0.57	0.03	82.64	9.05	-0.23	3.78	-0.23	4.44	-0.19
2	81580	0.68	0.41	0.53	0.05	68.04	14.94	-0.23	7.49	-0.23	9.46	-0.16
3	81580	0.57	0.37	0.46	0.04	57.09	9.91	-0.21	21.18	-0.17	11.74	-0.15
4	81580	0.58	0.33	0.42	0.04	57.61	26.29	-0.19	9.52	-0.16	6.52	-0.14
5	81580	0.52	0.31	0.38	0.08	51.66	12.68	-0.08	12.21	-0.18	23.37	-0.15
6	81580	0.35	0.25	0.32	0.21	35.06	16.09	-0.19	33.52	-0.05	15.11	-0.06
7	81580	0.79	0.44	0.62	0.02	78.66	9.67	-0.24	5.26	-0.24	6.37	-0.23
8	81580	0.70	0.44	0.57	0.03	69.73	10.28	-0.23	7.88	-0.27	12.05	-0.17
9	81580	0.68	0.43	0.56	0.04	68.16	6.65	-0.28	8.29	-0.28	16.82	-0.14
10	81580	0.73	0.44	0.60	0.09	72.96	7.77	-0.24	7.52	-0.28	11.64	-0.18
11	81580	0.48	0.33	0.41	0.07	48.45	28.60	-0.07	7.92	-0.15	14.94	-0.26
12	81580	0.48	0.22	0.27	0.03	48.34	3.52	-0.23	3.54	-0.20	44.55	-0.06
13	81580	0.89	0.36	0.60	0.05	88.98	2.15	-0.18	3.91	-0.20	4.88	-0.22
14	81580	0.72	0.34	0.45	0.03	71.72	18.78	-0.15	5.01	-0.24	4.43	-0.21
15	81580	0.79	0.41	0.58	0.02	79.01	8.50	-0.23	7.16	-0.19	5.27	-0.24
16	81580	0.82	0.43	0.62	0.05	81.74	7.56	-0.29	4.07	-0.18	6.56	-0.22
17	81580	0.90	0.37	0.64	0.08	90.41	2.14	-0.21	3.71	-0.21	3.63	-0.21
18	81580	0.75	0.32	0.44	0.06	74.73	4.61	-0.18	5.83	-0.18	14.75	-0.16
19	81580	0.62	0.35	0.45	0.11	61.76	7.15	-0.29	7.21	-0.27	23.75	-0.06
20	81580	0.51	0.27	0.34	0.02	51.01	6.82	-0.25	28.99	-0.06	13.15	-0.14

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.43**  
**2008 Spring AIMS Classical Item Analysis**  
**Language NRT Grade 5**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	81265	0.58	0.40	0.50	0.04	57.85	11.86	-0.18	19.60	-0.16	10.65	-0.23
2	81265	0.61	0.49	0.62	0.05	61.39	24.16	-0.29	8.87	-0.26	5.53	-0.17
3	81265	0.53	0.40	0.51	0.04	53.30	21.72	-0.16	11.85	-0.17	13.08	-0.24
4	81265	0.67	0.41	0.53	0.06	67.21	22.40	-0.24	7.66	-0.21	2.67	-0.21
5	81265	0.76	0.41	0.56	0.08	75.59	5.22	-0.23	4.17	-0.22	14.92	-0.22
6	81265	0.62	0.42	0.54	0.07	61.81	15.28	-0.23	11.63	-0.16	11.20	-0.23
7	81265	0.91	0.34	0.60	0.02	91.09	2.15	-0.16	3.16	-0.19	3.57	-0.21
8	81265	0.74	0.45	0.61	0.03	73.86	8.74	-0.23	6.11	-0.25	11.23	-0.24
9	81265	0.68	0.44	0.57	0.03	67.51	6.84	-0.23	15.18	-0.19	10.44	-0.26
10	81265	0.55	0.50	0.63	0.06	55.42	17.35	-0.29	9.79	-0.23	17.37	-0.19
11	81265	0.58	0.47	0.59	0.09	58.37	10.66	-0.25	20.33	-0.21	10.54	-0.22
12	81265	0.59	0.39	0.49	0.07	59.18	10.30	-0.24	20.44	-0.15	10.01	-0.19
13	81265	0.59	0.37	0.47	0.09	59.35	4.77	-0.22	14.13	-0.15	21.65	-0.20
14	81265	0.58	0.41	0.52	0.04	57.60	13.04	-0.12	15.11	-0.23	14.19	-0.23
15	81265	0.65	0.42	0.55	0.02	65.21	7.67	-0.24	16.99	-0.17	10.09	-0.25
16	81265	0.74	0.40	0.54	0.03	74.06	9.17	-0.22	5.69	-0.24	11.02	-0.18
17	81265	0.36	0.29	0.37	0.05	36.20	18.19	-0.11	27.06	-0.10	18.47	-0.14
18	81265	0.63	0.36	0.46	0.04	63.04	7.62	-0.22	17.41	-0.11	11.87	-0.22
19	81265	0.73	0.51	0.68	0.08	73.32	7.15	-0.25	9.07	-0.23	10.38	-0.31
20	81265	0.56	0.42	0.53	0.16	55.81	12.90	-0.21	17.15	-0.19	13.97	-0.19

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.44**  
**2008 Spring AIMS Classical Item Analysis**  
**Language NRT Grade 6**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	81583	0.61	0.42	0.53	0.05	60.71	5.34	-0.21	21.19	-0.21	12.70	-0.21
2	81583	0.56	0.45	0.57	0.13	56.31	14.74	-0.22	20.18	-0.15	8.63	-0.29
3	81583	0.56	0.36	0.45	0.07	56.20	28.76	-0.09	9.54	-0.28	5.40	-0.23
4	81583	0.55	0.34	0.43	0.09	54.93	21.30	-0.15	18.26	-0.14	5.39	-0.23
5	81583	0.57	0.31	0.39	0.14	56.98	12.63	-0.18	9.77	-0.20	20.47	-0.08
6	81583	0.44	0.34	0.43	0.03	44.30	22.02	-0.08	10.96	-0.23	22.67	-0.15
7	81583	0.81	0.47	0.69	0.04	81.39	6.24	-0.25	5.47	-0.29	6.85	-0.23
8	81583	0.58	0.32	0.40	0.06	58.46	27.57	-0.10	7.85	-0.22	6.03	-0.22
9	81583	0.68	0.42	0.56	0.04	68.45	8.18	-0.20	6.98	-0.26	16.32	-0.20
10	81583	0.53	0.25	0.31	0.06	53.07	30.26	-0.04	4.01	-0.26	12.59	-0.16
11	81583	0.70	0.45	0.59	0.15	70.11	11.13	-0.20	9.11	-0.24	9.49	-0.26
12	81583	0.66	0.44	0.57	0.15	65.68	17.80	-0.24	7.69	-0.23	8.68	-0.19
13	81583	0.71	0.32	0.42	0.04	71.47	5.34	-0.19	16.18	-0.16	6.94	-0.16
14	81583	0.70	0.46	0.61	0.04	70.22	6.96	-0.25	8.23	-0.24	14.54	-0.23
15	81583	0.42	0.28	0.36	0.02	42.29	27.68	-0.11	18.34	-0.09	11.67	-0.17
16	81583	0.88	0.45	0.73	0.02	88.32	4.43	-0.26	4.32	-0.26	2.89	-0.22
17	81583	0.68	0.47	0.61	0.03	68.29	15.36	-0.29	8.91	-0.19	7.39	-0.23
18	81583	0.79	0.51	0.72	0.04	78.65	8.58	-0.27	6.45	-0.25	6.26	-0.28
19	81583	0.77	0.54	0.74	0.06	76.97	8.46	-0.28	5.67	-0.29	8.83	-0.28
20	81583	0.58	0.39	0.49	0.04	58.44	6.33	-0.21	9.36	-0.25	25.83	-0.16

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

**Table 6.4.45**  
**2008 Spring AIMS Classical Item Analysis**  
**Language NRT Grade 7**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	80820	0.80	0.40	0.57	0.00	80.21	3.57	-0.22	3.32	-0.20	12.88	-0.25
2	80820	0.62	0.22	0.28	0.01	62.45	27.83	-0.11	2.46	-0.16	7.24	-0.11
3	80820	0.76	0.35	0.47	0.02	75.83	8.70	-0.09	3.02	-0.20	12.42	-0.27
4	80820	0.44	0.25	0.32	0.04	44.44	12.15	-0.17	9.16	-0.20	34.21	-0.02
5	80820	0.63	0.33	0.42	0.06	63.04	15.37	-0.07	7.32	-0.27	14.20	-0.19
6	80820	0.63	0.36	0.46	0.01	63.43	20.93	-0.25	13.12	-0.17	2.49	-0.11
7	80820	0.53	0.33	0.42	0.03	52.76	25.88	-0.17	11.36	-0.10	9.95	-0.19
8	80820	0.81	0.35	0.51	0.01	80.75	3.25	-0.24	8.57	-0.22	7.42	-0.14
9	80820	0.75	0.42	0.58	0.02	75.23	5.99	-0.27	8.05	-0.16	10.70	-0.24
10	80820	0.69	0.43	0.56	0.02	69.25	4.87	-0.23	13.35	-0.22	12.47	-0.21
11	80820	0.78	0.38	0.53	0.04	78.08	2.88	-0.21	11.03	-0.21	7.97	-0.20
12	80820	0.79	0.43	0.61	0.06	79.13	9.67	-0.25	5.02	-0.21	6.11	-0.24
13	80820	0.79	0.38	0.54	0.02	79.11	4.85	-0.24	3.96	-0.21	12.05	-0.19
14	80820	0.49	0.32	0.40	0.08	48.52	39.46	-0.08	6.38	-0.22	5.55	-0.27
15	80820	0.61	0.38	0.48	0.02	61.18	9.95	-0.25	21.88	-0.15	6.96	-0.17
16	80820	0.76	0.47	0.64	0.07	75.64	5.59	-0.27	7.65	-0.27	11.04	-0.21
17	80820	0.70	0.52	0.68	0.11	69.99	11.93	-0.25	7.56	-0.30	10.39	-0.25
18	80820	0.72	0.55	0.73	0.07	72.25	6.72	-0.28	9.43	-0.31	11.52	-0.26
19	80820	0.51	0.30	0.38	0.07	50.82	7.13	-0.28	34.06	-0.04	7.93	-0.22
20	80820	0.77	0.44	0.61	0.11	76.66	8.27	-0.21	7.27	-0.25	7.70	-0.23

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.



**Table 6.4.46**  
**2008 Spring AIMS Classical Item Analysis**  
**Language NRT Grade 8**

Item	N	P-Value	<i>r</i> pb	<i>r</i> bi	% Omit	Key	Distractor 1		Distractor 2		Distractor 3	
						%	%	<i>r</i> pb	%	<i>r</i> pb	%	<i>r</i> pb
1	80525	0.65	0.43	0.56	0.07	64.72	13.45	-0.19	11.67	-0.25	10.08	-0.20
2	80525	0.91	0.34	0.61	0.04	91.10	2.02	-0.18	2.87	-0.21	3.97	-0.19
3	80525	0.38	0.27	0.34	0.17	38.47	3.44	-0.20	29.12	-0.10	28.80	-0.11
4	80525	0.69	0.44	0.58	0.04	69.12	13.72	-0.22	9.10	-0.30	8.01	-0.15
5	80525	0.30	0.27	0.35	0.06	30.47	17.70	-0.14	25.46	-0.18	26.31	0.02
6	80525	0.50	0.31	0.38	0.07	50.41	18.95	-0.18	19.66	-0.10	10.90	-0.14
7	80525	0.54	0.37	0.47	0.02	53.62	8.78	-0.21	21.39	-0.16	16.19	-0.16
8	80525	0.36	0.22	0.29	0.03	35.53	17.20	-0.10	34.45	0.00	12.79	-0.19
9	80525	0.39	0.23	0.30	0.05	38.64	14.29	-0.13	18.55	-0.09	28.46	-0.07
10	80525	0.88	0.43	0.70	0.03	88.45	4.37	-0.25	3.29	-0.23	3.86	-0.22
11	80525	0.56	0.41	0.51	0.06	56.20	9.44	-0.13	9.97	-0.20	24.32	-0.24
12	80525	0.63	0.40	0.51	0.13	63.34	9.38	-0.24	11.31	-0.24	15.84	-0.12
13	80525	0.80	0.45	0.64	0.01	79.81	5.42	-0.20	2.79	-0.22	11.98	-0.30
14	80525	0.82	0.39	0.58	0.01	82.27	9.03	-0.26	6.12	-0.19	2.57	-0.18
15	80525	0.66	0.36	0.46	0.03	66.29	15.47	-0.15	9.96	-0.23	8.24	-0.17
16	80525	0.89	0.36	0.60	0.04	89.45	3.10	-0.21	4.62	-0.19	2.77	-0.21
17	80525	0.70	0.42	0.55	0.08	69.65	10.76	-0.16	5.43	-0.24	14.07	-0.24
18	80525	0.82	0.32	0.46	0.01	81.67	11.03	-0.14	4.30	-0.22	2.98	-0.20
19	80525	0.72	0.42	0.56	0.03	72.00	11.33	-0.18	5.70	-0.23	10.93	-0.24
20	80525	0.70	0.44	0.58	0.05	70.48	7.63	-0.24	11.40	-0.21	10.43	-0.22

Note. Item number is not the item number in test booklet due to the nature of the dual purpose assessment and imbedded field test items. This test included multiple choice items only. The statistics presented in this table are based on a calibration sample, which was near census for this administration.

## Part 7: Calibration, Scaling and Equating

Part 7 of the technical report describes calibration and scaling procedures and results for the 2008 Spring AIMS assessments. All grade levels and content areas were calibrated and scaled with calibration samples that typically consisted of the entire student population. The exclusion criteria for the calibration samples are described in section 6.1. Part 7 of this report addresses the following AERA/APA/NCME standards: 1.13, 2.1, 2.2, 2.14, 4.1, 4.2, 4.3, 6.4, 6.5, and 13.6. Also note that the 2007 Fall AIMS assessment is described in Appendix A.

### 7.1 Calibration Methods

Item Response Theory (IRT) models were used in the item calibration for all Reading, Mathematics, and Science AIMS tests. All tests were calibrated separately by grade and content area. All calibration activities were replicated by ADE staff as an added quality control check.

#### 7.1.1 Calibration Models

The AIMS Mathematics, Reading, and Science criterion-reference components are comprised of multiple-choice items. All items contributed to the AIMS CRT scores, including the *TerraNova* items that served dual purposes (Reading and Mathematics), and were calibrated using the Rasch model to create the CRT scale. Historically, the AIMS Mathematics and Reading CRT components have been developed and calibrated using the Rasch Model. The Rasch model (Rasch, 1960; Wright, 1977) can be conceptualized as a one-parameter IRT model in which item difficulty and student ability are estimated on the same scale. The Rasch model defines a multiple-choice item in terms of one parameter: item difficulty. In the Rasch model, the probability that a student with an ability estimate ( $\theta$ ) responds correctly to item  $i$  is

$$P_i(\theta) = \frac{\exp[(\theta - b_i)]}{1 + \exp[(\theta - b_i)]},$$

where  $b_i$  is the item difficulty.

Norm-reference scores are reported based on the students' performance on the NRT component, and items reporting to the AIMS norm-referenced component were calibrated with the three-parameter logistic (3PL) model (Lord & Novick, 1968; Lord, 1980). Norm-referenced items were calibrated during the national standardization of *TerraNova* using the 3PL model, and the parameters used for scoring the AIMS NRT were those obtained during this standardization. Using 3PL model to calibrate the NRT component was necessary in order to preserve the integrity of the norm reference scores.

The 3PL model defines a multiple-choice item in terms of three item parameters: item difficulty or location, item discrimination, and the pseudo-guessing parameter. In the 3PL model, the probability that a student with an ability estimate ( $\theta$ ) responds correctly to item  $i$  is

$$P_i(\theta) = c_i + \frac{1 - c_i}{1 + \exp[-1.7a_i(\theta - b_i)]},$$

where  $a_i$  is the item discrimination,  $b_i$  is the item difficulty, and  $c_i$  is the probability of a correct response by a low-scoring examinee. Norm-referenced items were calibrated during the national standardization of *TerraNova* and parameters used for scoring the AIMS NRT were those obtained during this standardization. Note that the NRT items have not changed over the previous three administrations of the AIMS.

### 7.1.2 Calibration Software

Parameter estimation for items on the criterion-referenced tests using the Rasch model was implemented using Winsteps 3.64.2 (Linacre, 2005). Winsteps uses joint maximum likelihood estimation (JMLE) as described by Wright and Masters (1982). To estimate the standard error of measurement at the extreme scores, calcSEM\_Rasch.sas (Choi, 2005) was used. Item parameters for the NRT assessment were obtained from *TerraNova*.

## 7.2 Calibration Results

### 7.2.1 IRT Item Statistics

Item statistics resulting from calibration of the AIMS CRT tests in Reading, Mathematics, and Science are presented in tables 7.2.1.1 through 7.2.1.20. All items for all Reading, Mathematics, and Science tests converged during calibration using typical procedures for Winsteps software. Standard error of estimates for the Rasch difficulty measures indicated that the parameters were well estimated. Model to item data fit was monitored using weighted mean-square (MNSQ) and unweighted MNSQ statistics, which indicate the degree of accuracy and predictability with which the data fits the model (Linacre, 2002). In Winsteps and Rasch literature, weighted mean-square is also referred to as infit MNSQ and unweighted mean-square is referred to as outfit MNSQ. The weighted mean-square statistic is sensitive to unexpected responses at or near the item's calibrated level, whereas unweighted mean-square statistics is sensitive to unexpected responses away from the item's calibrated level. Typically, values less than 0.6 and greater than 1.4 for weighted MNSQ indicate misfit, and values greater than 1.4 for unweighted MNSQ indicate misfit (Wright & Linacre, 1994). One item was flagged as having misfit as indicated by weighted MNSQ and 33 items were flagged as having misfit as indicated by unweighted MNSQ. Items on 15 of the 20 CRT tests, with between one and five items flagged per test, had misfit as indicated by unweighted MNSQ.

The items that were flagged for both weighted and unweighted MNSQ include:

1. Math Grade 3 Item 35 unweighted mean-square 1.53,
2. Math Grade 3 Item 36 unweighted mean-square 1.43,
3. Math Grade 3 Item 56 unweighted mean-square 1.45,
4. Math Grade 3 Item 61 unweighted mean-square 1.46,
5. Math Grade 4 Item 3 unweighted mean-square 1.41,
6. Math Grade 4 Item 32 unweighted mean-square 1.50,
7. Math Grade 5 Item 1 unweighted mean-square 1.46,
8. Math Grade 5 Item 28 unweighted mean-square 1.81,
9. Math Grade 5 Item 84 unweighted mean-square 1.43,
10. Math Grade 6 Item 4 unweighted mean-square 1.44,
11. Math Grade 6 Item 24 unweighted mean-square 1.49,
12. Math Grade 6 Item 36 unweighted mean-square 1.46,

13. Math Grade 7 Item 3 unweighted mean-square 1.46,
14. Math Grade 8 Item 38 unweighted mean-square 1.43,
15. Math Grade HS Item 1 weighted mean-square 1.41,
16. Math Grade HS Item 1 unweighted mean-square 1.71,
17. Math Grade HS Item 19 unweighted mean-square 1.44,
18. Reading Grade 3 Item 33 unweighted mean-square 1.74,
19. Reading Grade 3 Item 42 unweighted mean-square 1.52,
20. Reading Grade 4 Item 18 unweighted mean-square 1.84,
21. Reading Grade 4 Item 19 unweighted mean-square 1.51,
22. Reading Grade 4 Item 24 unweighted mean-square 1.51,
23. Reading Grade 4 Item 66 unweighted mean-square 1.53,
24. Reading Grade 4 Item 83 unweighted mean-square 1.57,
25. Reading Grade 7 Item 40 unweighted mean-square 1.45,
26. Reading Grade 7 Item 42 unweighted mean-square 1.52,
27. Reading HS Item 10 unweighted mean-square 1.42,
28. Reading HS Item 46 unweighted mean-square 1.44,
29. Science Grade 4 Form A Item 27 unweighted mean-square 1.46,
30. Science Grade 4 Form B Item 27 unweighted mean-square 1.50,
31. Science Grade 4 Form B Item 51 unweighted mean-square 1.54,
32. Science Grade 8 Form A Item 32 unweighted mean-square 1.69,
33. Science Grade 8 Form A Item 58 unweighted mean-square 1.46,
34. Science HS Form A Item 64 unweighted mean-square 1.41,

None of the misfit was so extreme as to warrant corrective action during operational analysis.

**Table 7.2.1.1**  
**2008 Spring AIMS IRT Item Statistics**  
**Mathematics Grade 3**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	0.02	0.01	1.14	1.30	37	-0.20	0.01	0.94	0.89
2	-0.27	0.01	0.91	0.88	38	1.53	0.01	1.30	1.45
3	0.62	0.01	0.91	0.88	39	1.72	0.01	1.09	1.23
4	-1.08	0.01	0.90	0.73	40	1.36	0.01	0.98	0.99
5	-0.22	0.01	0.88	0.74	41	-1.03	0.01	0.86	0.68
6	-3.67	0.03	0.97	0.72	42	-0.37	0.01	1.04	1.07
7	0.21	0.01	1.04	1.12	43	-0.93	0.01	1.09	1.46
8	0.18	0.01	0.83	0.73	44	-1.21	0.01	0.83	0.67
9	-0.10	0.01	0.88	0.77	45	-0.15	0.01	1.18	1.27
10	-0.35	0.01	1.05	1.03	46	1.14	0.01	1.09	1.15
11	-0.30	0.01	1.01	1.02	47	0.54	0.01	0.94	0.91
12	1.33	0.01	1.11	1.17	48	1.05	0.01	0.93	0.90
13	-0.57	0.01	1.06	1.17	49	1.21	0.01	0.94	0.94
14	-2.39	0.02	0.95	0.78	50	-0.10	0.01	1.01	0.97
15	0.03	0.01	0.92	0.81	51	0.83	0.01	1.11	1.11
16	0.82	0.01	0.98	0.96	52	-0.87	0.01	1.01	1.22
17	0.63	0.01	0.83	0.78	53	0.59	0.01	1.01	0.99
18	-0.25	0.01	0.82	0.66	54	-1.68	0.01	0.86	0.56
19	0.39	0.01	1.14	1.24	55	0.38	0.01	0.98	0.98
20	0.56	0.01	1.00	0.96	56	-0.78	0.01	1.00	1.01
21	0.48	0.01	0.90	0.85	57	1.11	0.01	1.02	1.00
22	-0.16	0.01	0.85	0.75	58	-0.61	0.01	0.92	0.88
23	-0.32	0.01	1.11	1.31	59	-0.33	0.01	0.96	0.94
24	-2.02	0.02	0.90	0.67	60	0.68	0.01	0.96	0.92
25	-0.85	0.01	1.15	1.53	61	0.66	0.01	0.88	0.80
26	0.48	0.01	1.25	1.43	62	-1.26	0.01	0.92	0.77
27	0.91	0.01	1.10	1.14	63	-0.20	0.01	0.90	0.83
28	-0.67	0.01	1.05	1.27	64	1.43	0.01	1.09	1.16
29	1.89	0.01	1.14	1.24	65	1.70	0.01	1.05	1.10
30	-0.83	0.01	0.97	0.89	66	-2.26	0.02	0.94	0.68
31	0.56	0.01	0.96	0.92	67	-0.25	0.01	0.88	0.75
32	-0.95	0.01	0.86	0.82	68	0.92	0.01	0.94	0.92
33	-1.78	0.01	0.92	0.80	69	0.16	0.01	1.12	1.25
34	1.23	0.01	1.06	1.07	70	0.67	0.01	0.89	0.83
35	-0.36	0.01	1.09	1.13	71	1.14	0.01	1.23	1.37
36	0.91	0.01	0.89	0.85	72	1.35	0.01	1.26	1.36

**Table 7.2.1.2**  
**2008 Spring AIMS IRT Item Statistics**  
**Mathematics Grade 4**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.96	0.01	0.91	0.83	36	-1.90	0.02	0.93	0.74
2	0.23	0.01	0.89	0.82	37	-0.70	0.01	0.90	0.74
3	-1.11	0.01	1.05	1.41	38	0.26	0.01	1.06	1.07
4	-0.35	0.01	0.97	0.83	39	-1.14	0.01	0.91	0.76
5	0.19	0.01	1.17	1.40	40	0.95	0.01	1.14	1.20
6	0.67	0.01	1.14	1.23	41	0.68	0.01	1.06	1.09
7	-1.05	0.01	1.01	1.17	42	-0.47	0.01	1.03	1.17
8	0.67	0.01	1.04	1.00	43	1.69	0.01	1.20	1.33
9	-0.53	0.01	0.91	0.74	44	0.23	0.01	1.07	1.05
10	0.49	0.01	0.95	0.90	45	0.86	0.01	0.91	0.87
11	-0.56	0.01	0.93	0.89	46	-0.01	0.01	1.05	1.01
12	0.70	0.01	1.03	0.99	47	-0.42	0.01	0.91	0.82
13	-0.81	0.01	0.95	0.94	48	0.70	0.01	0.87	0.80
14	0.67	0.01	0.91	0.85	49	-0.29	0.01	1.07	1.15
15	-0.38	0.01	0.91	0.83	50	0.45	0.01	1.07	1.10
16	-0.71	0.01	0.91	0.80	51	-0.04	0.01	1.09	1.22
17	0.49	0.01	1.01	0.97	52	-0.10	0.01	0.78	0.62
18	-0.60	0.01	0.82	0.60	53	0.52	0.01	1.01	0.98
19	0.75	0.01	1.07	1.09	54	1.16	0.01	1.18	1.26
20	-0.38	0.01	1.15	1.39	55	-0.98	0.01	0.95	0.87
21	-0.69	0.01	0.91	0.89	56	0.16	0.01	0.86	0.74
22	0.92	0.01	1.03	1.02	57	0.07	0.01	0.84	0.72
23	1.09	0.01	1.13	1.19	58	0.80	0.01	1.09	1.11
24	0.34	0.01	0.83	0.72	59	1.43	0.01	1.10	1.16
25	2.00	0.01	1.07	1.20	60	-1.49	0.01	0.98	0.91
26	-0.70	0.01	1.02	1.12	61	1.16	0.01	0.91	0.89
27	0.46	0.01	1.29	1.50	62	-0.36	0.01	1.05	1.10
28	0.06	0.01	0.86	0.72	63	0.96	0.01	1.03	1.03
29	0.96	0.01	0.88	0.85	64	1.58	0.01	1.16	1.25
30	-0.87	0.01	0.79	0.67	65	0.88	0.01	0.92	0.90
31	0.29	0.01	1.18	1.30	66	0.30	0.01	0.89	0.78
32	0.13	0.01	0.90	0.82	67	-0.78	0.01	1.12	1.07
33	-0.17	0.01	0.88	0.78	68	0.33	0.01	1.04	1.01
34	-0.22	0.01	0.94	0.89	69	-1.31	0.01	0.85	0.69
35	-0.93	0.01	1.05	1.40	70	-0.28	0.01	1.07	1.19

**Table 7.2.1.3**  
**2008 Spring AIMS IRT Item Statistics**  
**Mathematics Grade 5**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	0.22	0.01	1.18	1.46	35	0.14	0.01	0.98	0.87
2	0.67	0.01	0.97	0.91	36	0.51	0.01	0.86	0.80
3	0.76	0.01	1.17	1.22	37	0.57	0.01	0.91	0.85
4	-1.05	0.01	1.04	1.13	38	-0.56	0.01	1.03	0.96
5	0.66	0.01	0.91	0.84	39	0.72	0.01	0.97	0.91
6	-1.12	0.01	0.93	0.76	40	-1.01	0.01	1.07	1.22
7	0.84	0.01	1.16	1.18	41	-0.15	0.01	0.91	0.84
8	0.35	0.01	0.92	0.86	42	-0.17	0.01	0.97	0.88
9	0.24	0.01	1.12	1.27	43	0.14	0.01	0.83	0.72
10	-0.21	0.01	1.02	1.17	44	0.16	0.01	0.87	0.76
11	-0.36	0.01	0.96	1.03	45	0.83	0.01	1.10	1.12
12	0.50	0.01	1.05	1.06	46	0.84	0.01	1.09	1.13
13	0.16	0.01	0.94	0.83	47	1.03	0.01	1.08	1.12
14	0.63	0.01	0.84	0.77	48	1.12	0.01	1.07	1.10
15	-1.80	0.01	0.87	0.52	49	-1.11	0.01	0.97	1.01
16	-0.57	0.01	1.07	1.20	50	0.05	0.01	0.90	0.86
17	2.47	0.01	1.34	1.81	51	0.41	0.01	0.81	0.70
18	0.31	0.01	1.12	1.14	52	0.59	0.01	1.02	1.00
19	-0.51	0.01	0.82	0.64	53	0.85	0.01	0.85	0.79
20	-0.12	0.01	1.02	0.95	54	0.85	0.01	1.09	1.10
21	-0.43	0.01	1.04	1.07	55	0.28	0.01	1.00	0.90
22	0.10	0.01	0.84	0.73	56	-0.92	0.01	0.89	0.77
23	0.89	0.01	0.98	0.94	57	-0.30	0.01	0.84	0.71
24	-0.68	0.01	0.87	0.73	58	-1.73	0.01	1.11	0.84
25	-0.75	0.01	1.03	1.06	59	1.12	0.01	1.04	1.03
26	-0.50	0.01	0.87	0.68	60	-0.88	0.01	0.92	0.89
27	-1.68	0.01	1.02	1.27	61	-0.24	0.01	0.95	0.95
28	0.43	0.01	1.05	1.07	62	0.89	0.01	1.12	1.18
29	0.19	0.01	1.07	1.19	63	0.80	0.01	1.05	1.05
30	2.04	0.01	1.11	1.27	64	1.79	0.01	1.07	1.17
31	-1.32	0.01	0.95	0.95	65	1.21	0.01	1.28	1.43
32	1.30	0.01	1.01	1.01	66	0.67	0.01	1.12	1.13
33	0.84	0.01	1.09	1.11	67	0.87	0.01	1.09	1.10
34	-0.61	0.01	0.87	0.83	68	0.79	0.01	1.07	1.12

**Table 7.2.1.4**  
**2008 Spring AIMS IRT Item Statistics**  
**Mathematics Grade 6**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-1.22	0.01	0.86	0.67	35	-0.13	0.01	1.02	1.04
2	0.35	0.01	1.02	0.99	36	1.14	0.01	1.14	1.19
3	1.38	0.01	1.29	1.44	37	0.25	0.01	0.94	0.92
4	0.28	0.01	0.88	0.81	38	-0.39	0.01	0.97	0.98
5	-1.71	0.01	0.88	0.65	39	0.54	0.01	0.99	0.96
6	-1.46	0.01	0.78	0.70	40	-0.21	0.01	0.89	0.79
7	0.75	0.01	0.91	0.89	41	0.20	0.01	0.88	0.81
8	0.33	0.01	0.97	0.92	42	0.54	0.01	1.10	1.15
9	-0.79	0.01	0.88	0.70	43	1.39	0.01	1.09	1.17
10	-0.27	0.01	1.12	1.16	44	0.12	0.01	0.83	0.70
11	-0.43	0.01	0.91	0.85	45	1.49	0.01	1.06	1.10
12	0.83	0.01	1.17	1.26	46	-0.37	0.01	0.79	0.64
13	-0.07	0.01	0.97	0.96	47	0.51	0.01	1.02	1.06
14	0.59	0.01	0.94	0.90	48	1.01	0.01	1.04	1.06
15	-0.56	0.01	0.88	0.84	49	-0.99	0.01	0.90	0.82
16	0.27	0.01	1.25	1.49	50	1.20	0.01	1.16	1.22
17	0.29	0.01	0.92	0.83	51	0.08	0.01	1.02	1.03
18	0.79	0.01	0.95	0.91	52	0.52	0.01	1.11	1.19
19	0.42	0.01	0.96	0.89	53	0.16	0.01	1.07	1.04
20	0.91	0.01	1.07	1.08	54	0.34	0.01	1.01	1.01
21	-0.58	0.01	0.89	0.72	55	0.68	0.01	1.12	1.15
22	-2.05	0.02	0.90	0.85	56	-0.19	0.01	0.89	0.75
23	-1.35	0.01	0.97	1.01	57	0.40	0.01	0.96	0.92
24	0.34	0.01	0.94	0.95	58	-0.66	0.01	0.81	0.61
25	0.09	0.01	1.12	1.16	59	0.74	0.01	1.00	0.99
26	-0.71	0.01	1.09	1.46	60	0.30	0.01	1.08	1.09
27	-0.41	0.01	0.95	0.89	61	0.14	0.01	1.09	1.10
28	-0.34	0.01	1.07	1.22	62	1.42	0.01	0.95	0.97
29	0.89	0.01	1.10	1.13	63	0.05	0.01	0.86	0.77
30	-0.39	0.01	0.88	0.75	64	0.30	0.01	0.96	0.86
31	-0.37	0.01	1.03	1.26	65	1.21	0.01	1.01	1.02
32	0.31	0.01	1.03	1.05	66	-0.27	0.01	1.02	1.10
33	-0.39	0.01	0.91	0.83	67	-0.82	0.01	0.99	0.91
34	0.23	0.01	0.98	0.99	68	1.17	0.01	1.10	1.16



**Table 7.2.1.5**  
**2008 Spring AIMS IRT Item Statistics**  
**Mathematics Grade 7**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.21	0.01	0.96	0.89	35	0.10	0.01	0.93	0.83
2	1.10	0.01	1.11	1.15	36	-0.70	0.01	0.85	0.70
3	-0.07	0.01	1.26	1.46	37	0.03	0.01	0.93	0.84
4	-0.24	0.01	0.92	0.87	38	1.90	0.01	1.03	1.17
5	-0.14	0.01	1.03	1.09	39	0.01	0.01	0.94	0.81
6	0.18	0.01	0.94	0.87	40	0.54	0.01	1.05	1.04
7	-1.26	0.01	1.07	1.02	41	0.61	0.01	0.99	0.96
8	0.24	0.01	1.03	1.04	42	1.56	0.01	1.01	1.05
9	0.70	0.01	1.02	1.03	43	-0.27	0.01	0.90	0.81
10	-0.43	0.01	0.96	0.91	44	2.09	0.01	1.16	1.31
11	-1.06	0.01	1.04	1.04	45	1.19	0.01	1.17	1.23
12	0.82	0.01	1.17	1.29	46	0.64	0.01	1.05	1.07
13	0.39	0.01	0.98	0.91	47	-0.07	0.01	0.99	0.97
14	1.29	0.01	1.15	1.23	48	0.51	0.01	0.98	0.95
15	-0.62	0.01	0.94	1.01	49	-1.31	0.01	0.89	0.72
16	-0.07	0.01	0.93	0.91	50	0.02	0.01	0.82	0.72
17	1.89	0.01	1.11	1.28	51	1.38	0.01	1.07	1.13
18	1.06	0.01	1.05	1.08	52	0.44	0.01	0.94	0.86
19	-1.12	0.01	0.99	0.85	53	-1.16	0.01	0.97	1.03
20	0.13	0.01	0.97	0.96	54	0.70	0.01	1.13	1.22
21	0.48	0.01	1.16	1.18	55	-0.28	0.01	0.88	0.77
22	0.88	0.01	0.94	0.92	56	-1.45	0.01	0.94	0.85
23	-0.40	0.01	1.00	1.16	57	-0.57	0.01	0.79	0.58
24	0.76	0.01	0.91	0.86	58	-0.46	0.01	1.10	1.28
25	-0.65	0.01	1.09	1.20	59	1.22	0.01	1.18	1.27
26	-0.84	0.01	0.96	1.01	60	1.16	0.01	1.20	1.26
27	0.82	0.01	0.93	0.87	61	-0.26	0.01	0.84	0.76
28	-0.34	0.01	1.05	1.17	62	0.35	0.01	0.95	0.89
29	-0.20	0.01	0.92	0.76	63	0.69	0.01	1.13	1.18
30	0.56	0.01	0.94	0.85	64	0.55	0.01	0.89	0.82
31	-0.11	0.01	0.92	0.83	65	-0.99	0.01	0.91	1.03
32	-1.18	0.01	0.91	0.81	66	-0.16	0.01	0.80	0.69
33	-0.46	0.01	0.94	0.89	67	-0.54	0.01	0.86	0.75
34	0.28	0.01	0.98	0.96	68	1.33	0.01	1.16	1.24

**Table 7.2.1.6**  
**2008 Spring AIMS IRT Item Statistics**  
**Mathematics Grade 8**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	0.95	0.01	1.00	1.00	34	-0.74	0.01	1.05	0.96
2	0.28	0.01	1.03	0.98	35	1.77	0.01	1.10	1.22
3	-1.31	0.01	0.78	0.71	36	1.85	0.01	0.99	1.08
4	-0.14	0.01	0.99	0.96	37	-0.38	0.01	1.05	1.35
5	0.86	0.01	1.05	1.04	38	0.75	0.01	0.98	0.98
6	1.84	0.01	1.10	1.21	39	-0.38	0.01	1.14	1.31
7	1.67	0.01	1.04	1.20	40	-1.06	0.01	0.89	0.72
8	0.28	0.01	1.05	1.01	41	-0.61	0.01	1.11	1.29
9	0.24	0.01	0.97	0.90	42	0.87	0.01	1.03	1.06
10	-0.18	0.01	1.02	1.04	43	-1.77	0.01	1.03	0.91
11	1.12	0.01	1.00	1.02	44	0.52	0.01	1.09	1.07
12	0.15	0.01	0.98	0.98	45	0.64	0.01	0.96	0.92
13	-0.67	0.01	0.96	0.90	46	0.35	0.01	0.77	0.69
14	-0.82	0.01	0.99	1.03	47	-0.28	0.01	1.08	1.27
15	0.47	0.01	1.11	1.16	48	0.15	0.01	1.01	1.01
16	-0.90	0.01	1.05	0.99	49	0.43	0.01	0.94	0.92
17	-0.17	0.01	1.08	1.28	50	-0.63	0.01	0.90	0.79
18	0.99	0.01	1.02	1.02	51	0.25	0.01	1.04	1.01
19	-0.32	0.01	0.91	0.81	52	-1.18	0.01	0.87	0.60
20	0.00	0.01	0.82	0.69	53	-0.11	0.01	0.86	0.74
21	-0.23	0.01	0.93	0.90	54	1.85	0.01	1.08	1.24
22	-0.25	0.01	0.86	0.82	55	-0.13	0.01	1.02	1.01
23	-0.84	0.01	0.97	0.94	56	-0.33	0.01	0.80	0.71
24	-0.48	0.01	0.89	0.84	57	-1.23	0.01	0.91	0.92
25	0.38	0.01	1.04	1.04	58	-0.35	0.01	1.04	1.04
26	-0.28	0.01	0.90	0.77	59	-0.04	0.01	1.00	1.00
27	-0.10	0.01	0.95	0.87	60	0.54	0.01	1.03	1.06
28	-1.21	0.01	0.89	0.82	61	-0.24	0.01	1.10	1.17
29	1.70	0.01	1.21	1.43	62	0.26	0.01	1.06	1.08
30	1.48	0.01	0.99	1.03	63	2.03	0.01	1.17	1.40
31	1.07	0.01	1.22	1.32	64	-0.70	0.01	0.95	0.80
32	-0.60	0.01	0.97	0.98	65	0.54	0.01	1.17	1.28
33	1.09	0.01	1.08	1.12	66	-0.16	0.01	0.93	0.88

**Table 7.2.1.7**  
**2008 Spring AIMS IRT Item Statistics**  
**Mathematics High School**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	0.77	0.01	1.41	1.71	44	1.09	0.01	1.09	1.12
2	-1.29	0.01	0.92	0.77	45	1.24	0.01	0.96	0.97
3	0.20	0.01	1.00	1.01	46	0.91	0.01	1.17	1.22
4	0.13	0.01	0.97	0.89	47	-0.09	0.01	1.11	1.27
5	0.52	0.01	0.90	0.89	48	-1.15	0.01	0.94	0.84
6	1.02	0.01	1.25	1.31	49	0.82	0.01	1.11	1.20
7	-0.61	0.01	0.98	0.95	50	-0.19	0.01	1.06	1.15
8	1.00	0.01	1.03	1.03	51	0.70	0.01	1.04	1.02
9	0.87	0.01	1.05	1.05	52	1.79	0.01	0.99	1.05
10	-0.31	0.01	0.91	0.81	53	-0.79	0.01	0.91	0.85
11	0.20	0.01	1.00	0.98	54	0.35	0.01	1.15	1.20
12	0.59	0.01	0.90	0.85	55	1.23	0.01	0.81	0.78
13	1.01	0.01	1.16	1.22	56	-0.23	0.01	0.93	0.85
14	-1.56	0.01	0.88	0.75	57	0.86	0.01	1.08	1.09
15	1.52	0.01	1.13	1.20	58	-0.07	0.01	0.92	0.84
16	-2.06	0.02	0.93	0.71	59	-0.84	0.01	0.89	0.77
17	-0.50	0.01	0.97	1.03	60	0.94	0.01	1.14	1.20
18	0.78	0.01	1.04	1.03	61	-0.22	0.01	0.84	0.71
19	1.36	0.01	1.29	1.44	62	0.36	0.01	0.96	0.98
20	1.03	0.01	0.93	0.92	63	0.51	0.01	0.94	0.89
21	-0.86	0.01	0.88	0.71	64	0.05	0.01	0.85	0.75
22	-1.48	0.01	0.92	0.74	65	0.32	0.01	1.03	1.02
23	0.12	0.01	0.92	0.91	66	0.58	0.01	1.15	1.17
24	1.03	0.01	1.08	1.12	67	0.99	0.01	1.12	1.15
25	-1.87	0.01	0.88	0.82	68	-1.03	0.01	0.96	0.97
26	-1.18	0.01	0.98	0.80	69	-1.24	0.01	0.85	0.62
27	0.45	0.01	0.86	0.82	70	-0.07	0.01	0.86	0.81
28	-0.75	0.01	0.82	0.64	71	-0.58	0.01	0.89	0.81
29	-0.14	0.01	0.83	0.71	72	-0.03	0.01	0.92	0.88
30	0.52	0.01	1.03	1.00	73	-0.52	0.01	0.94	0.98
31	-1.06	0.01	0.94	1.03	74	0.22	0.01	1.05	1.06
32	0.95	0.01	0.89	0.86	75	0.24	0.01	0.96	0.86
33	1.29	0.01	1.23	1.33	76	-1.68	0.01	0.87	0.71
34	-0.45	0.01	0.87	0.72	77	-0.23	0.01	0.92	0.79
35	-0.51	0.01	0.81	0.68	78	0.24	0.01	1.00	0.98
36	0.17	0.01	1.02	1.00	79	1.11	0.01	1.20	1.28
37	0.27	0.01	1.15	1.21	80	0.59	0.01	1.09	1.13
38	0.60	0.01	1.04	1.08	81	-0.32	0.01	1.01	1.04
39	0.67	0.01	1.00	0.96	82	-0.49	0.01	0.90	0.83
40	0.97	0.01	0.90	0.88	83	-0.68	0.01	0.88	0.76
41	0.75	0.01	1.05	1.04	84	-0.75	0.01	0.97	0.97
42	-0.10	0.01	0.95	0.90	85	0.65	0.01	1.10	1.13
43	1.34	0.01	1.16	1.26					

**Table 7.2.1.8**  
**2008 Spring AIMS IRT Item Statistics**  
**Reading Grade 3**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-2.10	0.01	0.89	0.56	28	0.69	0.01	1.07	1.07
2	-1.03	0.01	1.01	1.10	29	-0.42	0.01	0.89	0.81
3	-2.24	0.02	0.90	0.62	30	0.06	0.01	0.91	0.86
4	-0.70	0.01	1.00	1.03	31	-0.09	0.01	0.91	0.81
5	0.14	0.01	0.96	0.94	32	-1.83	0.01	0.75	0.40
6	-0.68	0.01	0.84	0.72	33	-0.54	0.01	0.88	0.73
7	-1.56	0.01	0.87	0.75	34	0.26	0.01	1.10	1.25
8	-0.66	0.01	0.90	0.82	35	-0.67	0.01	0.86	0.73
9	-0.35	0.01	0.85	0.69	36	-1.22	0.01	0.87	0.75
10	0.43	0.01	0.98	0.95	37	-0.33	0.01	1.17	1.36
11	0.41	0.01	1.04	1.07	38	1.46	0.01	1.08	1.17
12	0.55	0.01	0.95	0.92	39	1.27	0.01	0.94	0.97
13	1.68	0.01	1.09	1.25	40	0.72	0.01	1.09	1.08
14	-0.89	0.01	0.82	0.63	41	0.21	0.01	0.91	0.81
15	2.19	0.01	1.09	1.28	42	-0.02	0.01	1.12	1.30
16	0.57	0.01	1.36	1.74	43	1.45	0.01	1.17	1.31
17	0.15	0.01	0.94	0.90	44	0.47	0.01	1.12	1.23
18	0.87	0.01	1.09	1.12	45	1.44	0.01	0.92	0.95
19	-0.60	0.01	0.89	0.86	46	0.66	0.01	1.01	1.00
20	-0.64	0.01	0.87	0.77	47	0.69	0.01	0.96	0.91
21	0.64	0.01	1.15	1.24	48	0.26	0.01	0.85	0.74
22	0.97	0.01	1.04	1.06	49	0.82	0.01	0.94	0.91
23	0.41	0.01	1.08	1.10	50	0.34	0.01	0.99	0.96
24	-1.46	0.01	0.84	0.59	51	0.09	0.01	0.89	0.84
25	1.77	0.01	1.31	1.52	52	0.24	0.01	0.86	0.79
26	0.30	0.01	0.98	0.95	53	1.33	0.01	1.12	1.23
27	-0.11	0.01	0.98	0.91	54	0.24	0.01	1.08	1.12

**Table 7.2.1.9**  
**2008 Spring AIMS IRT Item Statistics**  
**Reading Grade 4**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.98	0.01	0.94	0.90	28	-1.43	0.01	0.83	0.55
2	0.09	0.01	1.20	1.28	29	-0.42	0.01	0.86	0.69
3	0.54	0.01	0.96	0.90	30	-0.21	0.01	0.83	0.69
4	1.12	0.01	1.20	1.31	31	0.00	0.01	0.81	0.68
5	-0.65	0.01	0.92	0.78	32	-0.32	0.01	1.07	1.11
6	0.18	0.01	1.18	1.28	33	0.11	0.01	0.90	0.79
7	0.53	0.01	0.95	0.90	34	0.78	0.01	0.88	0.83
8	-1.05	0.01	0.89	0.78	35	0.06	0.01	0.92	0.81
9	2.49	0.01	1.18	1.84	36	-1.35	0.01	0.87	0.74
10	0.73	0.01	1.34	1.51	37	0.25	0.01	1.23	1.28
11	-0.20	0.01	0.88	0.73	38	1.70	0.01	1.28	1.53
12	-0.32	0.01	1.14	1.37	39	0.06	0.01	0.95	0.84
13	0.22	0.01	1.02	1.01	40	-0.44	0.01	0.88	0.73
14	-1.22	0.01	0.84	0.62	41	-0.46	0.01	0.92	0.78
15	0.28	0.01	1.24	1.51	42	0.49	0.01	1.04	1.04
16	-0.36	0.01	0.92	0.81	43	-0.15	0.01	0.91	0.76
17	-0.31	0.01	1.00	1.03	44	0.83	0.01	0.92	0.90
18	-1.48	0.01	0.83	0.59	45	0.20	0.01	0.94	0.85
19	1.19	0.01	1.09	1.15	46	-0.07	0.01	0.92	0.79
20	-0.18	0.01	0.98	0.93	47	1.05	0.01	0.93	0.93
21	-1.05	0.01	0.92	0.78	48	1.86	0.01	1.25	1.57
22	-0.46	0.01	0.95	0.93	49	0.00	0.01	1.04	1.01
23	0.86	0.01	1.08	1.12	50	-1.20	0.01	0.88	0.73
24	0.48	0.01	1.04	1.05	51	-0.76	0.01	1.00	1.29
25	-0.24	0.01	1.11	1.23	52	-1.22	0.01	0.85	0.60
26	0.46	0.01	1.02	1.01	53	-1.06	0.01	0.84	0.64
27	1.00	0.01	1.14	1.21	54	-0.26	0.01	0.91	0.81

**Table 7.2.1.10**  
**2008 Spring AIMS IRT Item Statistics**  
**Reading Grade 5**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.56	0.01	1.05	1.06	28	-0.33	0.01	1.07	1.07
2	-2.04	0.01	1.06	0.93	29	0.02	0.01	0.90	0.81
3	-0.66	0.01	0.85	0.71	30	-0.20	0.01	0.88	0.76
4	0.68	0.01	1.26	1.37	31	0.79	0.01	1.19	1.29
5	-0.97	0.01	0.89	0.75	32	0.77	0.01	1.13	1.18
6	0.48	0.01	1.01	0.99	33	-1.28	0.01	0.99	0.98
7	-0.92	0.01	1.02	1.03	34	0.21	0.01	1.04	1.04
8	-0.22	0.01	0.99	1.01	35	0.18	0.01	0.95	0.90
9	0.61	0.01	1.08	1.09	36	0.29	0.01	1.02	1.01
10	0.17	0.01	1.00	0.95	37	0.25	0.01	1.02	0.99
11	-0.89	0.01	0.88	0.72	38	0.02	0.01	0.83	0.73
12	0.50	0.01	1.04	1.04	39	0.58	0.01	1.24	1.28
13	-0.27	0.01	0.86	0.75	40	0.76	0.01	0.97	0.94
14	0.53	0.01	0.94	0.90	41	1.62	0.01	1.12	1.26
15	0.40	0.01	0.88	0.81	42	-0.05	0.01	0.91	0.85
16	0.11	0.01	1.00	0.98	43	0.63	0.01	1.17	1.21
17	0.66	0.01	0.95	0.93	44	0.70	0.01	1.24	1.32
18	0.53	0.01	1.11	1.14	45	0.60	0.01	1.16	1.20
19	0.89	0.01	0.99	0.98	46	-1.18	0.01	0.88	0.77
20	0.56	0.01	1.18	1.28	47	0.98	0.01	1.11	1.15
21	0.48	0.01	0.89	0.84	48	-0.67	0.01	0.85	0.72
22	-0.24	0.01	0.83	0.71	49	0.91	0.01	1.04	1.06
23	-0.19	0.01	1.00	1.05	50	-1.03	0.01	0.82	0.59
24	0.08	0.01	0.97	0.91	51	-0.40	0.01	0.85	0.73
25	-0.98	0.01	0.87	0.80	52	-0.10	0.01	0.81	0.69
26	1.07	0.01	1.25	1.35	53	0.52	0.01	1.07	1.14
27	-0.72	0.01	0.90	0.78	54	0.26	0.01	0.87	0.79

**Table 7.2.1.11**  
**2008 Spring AIMS IRT Item Statistics**  
**Reading Grade 6**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.11	0.01	1.01	0.99	28	-0.32	0.01	0.93	0.84
2	-1.91	0.01	0.85	0.53	29	0.93	0.01	1.10	1.17
3	-0.18	0.01	1.06	1.11	30	-0.09	0.01	0.96	0.88
4	-1.73	0.01	0.84	0.60	31	1.60	0.01	1.05	1.17
5	-1.03	0.01	0.86	0.69	32	1.20	0.01	1.14	1.21
6	-0.40	0.01	0.84	0.70	33	0.28	0.01	0.92	0.93
7	-0.21	0.01	0.95	0.92	34	0.98	0.01	1.09	1.13
8	-0.88	0.01	0.93	0.89	35	0.33	0.01	0.91	0.85
9	-1.49	0.01	0.98	0.98	36	0.01	0.01	1.03	0.98
10	-0.55	0.01	1.07	1.18	37	-0.05	0.01	0.96	0.89
11	-1.97	0.01	0.89	0.71	38	-0.05	0.01	1.21	1.33
12	-1.23	0.01	0.85	0.69	39	1.03	0.01	1.22	1.32
13	-0.03	0.01	0.89	0.79	40	0.15	0.01	1.02	1.00
14	-0.27	0.01	0.79	0.65	41	0.82	0.01	0.99	0.99
15	0.66	0.01	1.08	1.14	42	1.30	0.01	1.11	1.23
16	-0.09	0.01	0.93	0.85	43	1.26	0.01	1.11	1.20
17	1.30	0.01	1.08	1.15	44	0.81	0.01	1.06	1.07
18	-0.74	0.01	1.00	0.85	45	1.27	0.01	1.16	1.27
19	-0.38	0.01	0.82	0.66	46	-0.31	0.01	0.97	0.93
20	0.22	0.01	1.01	1.02	47	-0.36	0.01	0.89	0.82
21	-1.21	0.01	0.89	0.81	48	-0.02	0.01	1.11	1.20
22	0.16	0.01	1.17	1.36	49	0.00	0.01	0.87	0.76
23	-0.62	0.01	1.02	1.03	50	1.33	0.01	1.14	1.25
24	-1.32	0.01	0.84	0.70	51	0.50	0.01	1.03	1.06
25	-0.89	0.01	1.02	0.93	52	-0.23	0.01	0.77	0.62
26	-0.01	0.01	0.92	0.86	53	1.36	0.01	1.06	1.17
27	0.45	0.01	1.14	1.22	54	0.94	0.01	1.04	1.06

**Table 7.2.1.12**  
**2008 Spring AIMS IRT Item Statistics**  
**Reading Grade 7**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-1.72	0.01	0.95	0.91	28	1.01	0.01	1.05	1.09
2	0.57	0.01	1.15	1.19	29	0.08	0.01	0.90	0.83
3	-0.92	0.01	0.90	0.73	30	0.31	0.01	0.88	0.80
4	-0.16	0.01	0.92	0.86	31	0.63	0.01	0.98	1.00
5	-0.42	0.01	1.02	0.97	32	-0.47	0.01	0.89	0.76
6	0.15	0.01	0.96	0.91	33	0.70	0.01	1.07	1.11
7	-1.11	0.01	0.86	0.69	34	-0.03	0.01	0.94	0.88
8	0.32	0.01	1.07	1.07	35	0.13	0.01	0.89	0.80
9	-0.39	0.01	0.96	0.90	36	1.95	0.01	1.09	1.36
10	-0.40	0.01	0.92	0.83	37	0.91	0.01	1.07	1.12
11	-0.96	0.01	0.92	0.81	38	0.13	0.01	1.07	1.05
12	-0.31	0.01	1.03	1.14	39	1.13	0.01	1.10	1.15
13	1.28	0.01	1.11	1.18	40	0.98	0.01	1.24	1.35
14	-0.49	0.01	0.91	0.86	41	-0.21	0.01	0.98	0.98
15	0.16	0.01	0.97	0.95	42	-0.35	0.01	0.96	0.91
16	-1.37	0.01	0.89	0.92	43	-0.02	0.01	1.03	1.07
17	0.54	0.01	1.06	1.13	44	-0.56	0.01	0.93	0.95
18	0.52	0.01	1.04	1.02	45	0.13	0.01	1.03	1.05
19	0.70	0.01	1.03	1.03	46	0.45	0.01	0.93	0.89
20	0.96	0.01	1.16	1.23	47	-0.58	0.01	0.86	0.70
21	-0.08	0.01	0.89	0.82	48	1.28	0.01	1.01	1.07
22	0.22	0.01	0.98	1.01	49	0.12	0.01	1.02	1.02
23	0.81	0.01	1.20	1.26	50	-0.31	0.01	0.87	0.81
24	-0.12	0.01	0.96	0.91	51	0.77	0.01	1.00	1.00
25	-0.11	0.01	1.24	1.45	52	-0.28	0.01	0.90	0.82
26	-0.79	0.01	0.92	0.82	53	-0.29	0.01	0.95	0.87
27	-0.72	0.01	1.17	1.52	54	0.65	0.01	1.04	1.04



**Table 7.2.1.13**  
**2008 Spring AIMS IRT Item Statistics**  
**Reading Grade 8**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-1.54	0.01	0.99	0.99	28	-0.29	0.01	1.00	1.06
2	0.41	0.01	1.13	1.17	29	-0.06	0.01	1.17	1.33
3	0.21	0.01	1.01	0.98	30	0.08	0.01	0.94	0.92
4	1.09	0.01	1.09	1.14	31	0.95	0.01	1.10	1.17
5	-0.29	0.01	1.03	1.13	32	-0.70	0.01	0.83	0.64
6	0.89	0.01	1.19	1.29	33	0.22	0.01	1.02	1.00
7	-1.00	0.01	1.08	1.15	34	-0.69	0.01	0.79	0.61
8	0.75	0.01	1.18	1.24	35	0.20	0.01	1.03	1.08
9	-0.11	0.01	1.11	1.14	36	0.64	0.01	0.91	0.88
10	-0.38	0.01	0.97	0.87	37	1.08	0.01	1.12	1.18
11	0.26	0.01	0.98	0.94	38	-0.15	0.01	0.92	0.83
12	0.49	0.01	1.00	0.99	39	0.64	0.01	1.11	1.15
13	0.65	0.01	1.02	1.01	40	0.39	0.01	1.14	1.16
14	-0.86	0.01	0.90	0.75	41	0.88	0.01	1.01	1.03
15	1.14	0.01	1.02	1.04	42	-1.03	0.01	0.90	0.85
16	-0.65	0.01	0.92	0.87	43	1.38	0.01	1.10	1.21
17	-0.68	0.01	0.93	0.87	44	0.40	0.01	1.02	0.98
18	0.21	0.01	1.02	1.05	45	0.58	0.01	1.20	1.27
19	-0.75	0.01	0.83	0.69	46	0.03	0.01	0.98	0.93
20	-0.06	0.01	0.97	0.91	47	0.13	0.01	0.93	0.89
21	-1.95	0.01	0.87	0.61	48	-0.36	0.01	0.84	0.71
22	1.32	0.01	1.13	1.22	49	-0.66	0.01	0.94	0.80
23	-1.34	0.01	0.99	0.91	50	0.20	0.01	1.02	1.01
24	0.67	0.01	1.08	1.10	51	-0.17	0.01	0.89	0.80
25	-0.16	0.01	0.97	0.94	52	-0.30	0.01	1.04	0.99
26	-0.53	0.01	0.91	0.85	53	-0.07	0.01	0.93	0.87
27	-0.38	0.01	0.86	0.77	54	-0.15	0.01	0.94	0.87

**Table 7.2.1.14**  
**2008 Spring AIMS IRT Item Statistics**  
**Reading High School**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	0.02	0.01	0.99	0.96	28	-0.07	0.01	0.91	0.80
2	0.13	0.01	1.07	1.10	29	-1.30	0.01	0.92	0.83
3	-0.88	0.01	1.01	0.97	30	-1.67	0.01	0.83	0.47
4	-0.21	0.01	1.03	1.10	31	0.74	0.01	1.03	1.03
5	0.40	0.01	1.12	1.14	32	1.66	0.01	1.09	1.18
6	1.08	0.01	0.95	0.95	33	0.69	0.01	0.88	0.83
7	-0.87	0.01	0.98	1.14	34	0.07	0.01	0.93	0.89
8	0.00	0.01	1.02	1.07	35	-0.28	0.01	0.96	0.96
9	-0.23	0.01	1.12	1.27	36	0.72	0.01	0.89	0.85
10	1.87	0.01	1.18	1.42	37	1.27	0.01	1.13	1.19
11	0.15	0.01	1.06	1.09	38	-0.33	0.01	0.95	0.90
12	-1.19	0.01	0.90	0.79	39	-0.02	0.01	1.09	1.09
13	1.78	0.01	1.21	1.39	40	-0.29	0.01	0.90	0.80
14	0.73	0.01	1.07	1.09	41	0.22	0.01	1.26	1.44
15	1.48	0.01	1.20	1.31	42	0.76	0.01	0.99	0.98
16	0.26	0.01	1.01	0.96	43	0.30	0.01	0.94	0.89
17	0.90	0.01	1.06	1.09	44	2.08	0.01	1.06	1.21
18	0.95	0.01	1.02	1.04	45	0.96	0.01	1.04	1.05
19	0.36	0.01	0.96	0.93	46	0.67	0.01	0.99	0.96
20	-1.63	0.01	0.87	0.63	47	-0.94	0.01	0.82	0.58
21	0.12	0.01	0.88	0.81	48	-0.66	0.01	0.85	0.69
22	-1.29	0.01	0.84	0.59	49	0.94	0.01	0.91	0.89
23	-0.18	0.01	0.80	0.72	50	1.63	0.01	0.96	1.03
24	0.37	0.01	1.01	1.08	51	0.33	0.01	0.89	0.81
25	0.15	0.01	1.02	1.13	52	0.88	0.01	1.17	1.22
26	0.24	0.01	0.96	0.89	53	0.32	0.01	1.01	1.00
27	-1.17	0.01	0.82	0.62	54	1.39	0.01	1.01	1.07

**Table 7.2.1.15**  
**2008 Spring AIMS IRT Item Statistics**  
**Science Grade 4 Form A**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-2.32	0.02	0.90	0.59	28	0.84	0.01	1.03	1.07
2	-0.57	0.01	1.01	1.07	29	-0.58	0.01	0.97	0.96
3	0.08	0.01	0.93	0.88	30	-0.88	0.01	0.80	0.64
4	-1.61	0.01	0.84	0.60	31	-1.82	0.01	0.94	0.83
5	-0.84	0.01	0.96	0.92	32	-0.01	0.01	0.96	0.93
6	-0.55	0.01	1.15	1.27	33	-0.75	0.01	0.94	0.93
7	-1.24	0.01	0.86	0.71	34	0.36	0.01	0.95	0.93
8	0.43	0.01	1.03	1.04	35	0.37	0.01	1.10	1.12
9	-0.93	0.01	0.88	0.75	36	0.49	0.01	0.94	0.92
10	-2.86	0.02	0.92	0.69	37	0.35	0.01	1.01	1.01
11	-2.32	0.01	0.94	1.04	38	-0.51	0.01	0.86	0.77
12	-0.32	0.01	0.98	1.01	39	-0.55	0.01	0.86	0.77
13	-0.68	0.01	0.88	0.80	40	1.55	0.01	1.08	1.27
14	-1.43	0.02	0.86	0.67	41	-0.56	0.01	0.87	0.78
15	-0.87	0.01	0.99	1.11	42	0.85	0.01	1.08	1.11
16	0.04	0.01	0.92	0.88	43	-0.76	0.01	0.97	0.94
17	-0.31	0.01	1.07	1.09	44	-1.68	0.01	0.91	0.83
18	-0.41	0.01	0.82	0.72	45	-0.49	0.01	0.94	0.87
19	0.25	0.01	0.94	0.90	46	0.80	0.01	1.16	1.23
20	0.73	0.01	1.09	1.10	47	1.11	0.01	1.23	1.37
21	-0.33	0.01	0.97	0.95	48	1.00	0.01	1.04	1.08
22	0.88	0.01	1.09	1.15	49	0.79	0.01	1.03	1.05
23	0.98	0.01	1.00	1.04	50	1.10	0.01	1.02	1.07
24	1.35	0.01	1.15	1.26	51	1.19	0.01	1.07	1.13
25	0.93	0.01	1.15	1.21	52	0.41	0.01	0.92	0.91
26	0.89	0.01	1.10	1.14	53	1.47	0.01	1.11	1.24
27	1.75	0.01	1.22	1.46	54	1.07	0.01	1.08	1.15

**Table 7.2.1.16**  
**2008 Spring AIMS IRT Item Statistics**  
**Science Grade 4 Form B**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-2.79	0.03	0.91	0.57	28	-0.60	0.01	0.91	0.86
2	-1.01	0.01	0.99	1.05	29	-0.42	0.01	0.98	0.96
3	0.42	0.01	0.94	0.91	30	-0.86	0.01	0.81	0.64
4	-1.61	0.01	0.84	0.60	31	-1.82	0.01	0.94	0.83
5	-0.84	0.01	0.96	0.92	32	-0.01	0.01	0.96	0.93
6	-0.56	0.01	0.92	0.87	33	-1.00	0.01	0.81	0.64
7	-0.29	0.01	1.03	1.09	34	1.04	0.01	1.13	1.21
8	0.43	0.01	1.03	1.04	35	0.37	0.01	1.10	1.12
9	-0.93	0.01	0.88	0.75	36	0.49	0.01	0.94	0.92
10	-2.86	0.02	0.92	0.69	37	0.35	0.01	1.01	1.01
11	-2.32	0.01	0.94	1.04	38	-0.47	0.01	0.85	0.76
12	-0.32	0.01	0.98	1.01	39	1.24	0.01	1.05	1.14
13	-0.32	0.01	0.96	0.93	40	0.84	0.01	1.10	1.14
14	-0.06	0.01	1.03	1.02	41	-0.72	0.01	0.82	0.69
15	-0.96	0.01	1.02	1.12	42	0.30	0.01	0.88	0.84
16	0.91	0.01	1.05	1.10	43	-0.76	0.01	0.97	0.94
17	-0.06	0.01	1.01	1.00	44	-1.68	0.01	0.91	0.83
18	-0.28	0.01	0.83	0.78	45	-0.49	0.01	0.94	0.87
19	0.25	0.01	0.94	0.90	46	1.27	0.01	1.11	1.22
20	0.73	0.01	1.09	1.10	47	1.25	0.01	0.98	1.03
21	-0.10	0.01	0.97	0.98	48	1.00	0.01	1.04	1.08
22	1.01	0.01	1.10	1.15	49	0.79	0.01	1.03	1.05
23	0.98	0.01	1.00	1.04	50	1.10	0.01	1.02	1.07
24	1.35	0.01	1.15	1.26	51	1.62	0.01	1.30	1.54
25	0.14	0.01	0.90	0.86	52	-0.38	0.01	0.90	0.82
26	1.09	0.01	1.10	1.17	53	1.05	0.01	1.13	1.18
27	1.33	0.01	1.31	1.50	54	1.45	0.01	1.08	1.19

**Table 7.2.1.17**  
**2008 Spring AIMS IRT Item Statistics**  
**Science Grade 8 Form A**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-1.96	0.02	0.93	0.92	30	-0.72	0.01	0.97	1.01
2	-0.78	0.01	0.95	0.95	31	0.97	0.01	1.05	1.07
3	-0.77	0.01	0.84	0.73	32	2.50	0.01	1.16	1.69
4	-2.39	0.01	0.87	0.60	33	0.05	0.01	1.04	1.10
5	-1.85	0.01	0.99	1.02	34	-0.10	0.01	0.95	0.91
6	-1.53	0.01	0.87	0.67	35	0.24	0.01	1.07	1.10
7	-0.73	0.01	0.92	0.85	36	0.41	0.01	0.96	0.95
8	-0.08	0.01	1.06	1.07	37	-0.32	0.01	0.86	0.79
9	-0.11	0.01	1.07	1.10	38	-0.40	0.01	1.03	1.14
10	0.15	0.01	1.21	1.36	39	0.32	0.01	1.08	1.14
11	-1.33	0.01	0.88	0.75	40	-1.25	0.01	0.86	0.67
12	0.15	0.01	1.09	1.13	41	0.52	0.01	0.98	0.98
13	-0.49	0.01	1.09	1.22	42	0.46	0.01	0.95	0.94
14	-0.09	0.01	1.01	1.02	43	0.88	0.01	0.93	0.93
15	-0.70	0.01	0.95	1.02	44	0.64	0.01	1.02	1.04
16	0.29	0.01	1.13	1.17	45	-1.42	0.01	0.87	0.69
17	-0.21	0.01	0.96	0.93	46	1.23	0.01	0.99	1.09
18	-0.12	0.01	0.96	0.91	47	-0.67	0.01	0.85	0.73
19	-1.13	0.01	0.96	0.98	48	0.27	0.01	1.00	1.02
20	-0.42	0.01	0.90	0.81	49	1.08	0.01	1.14	1.22
21	-0.05	0.01	1.08	1.10	50	0.53	0.01	1.06	1.08
22	-0.11	0.01	0.90	0.85	51	0.98	0.01	0.97	1.00
23	-0.07	0.01	0.88	0.81	52	1.10	0.01	0.95	0.97
24	-0.08	0.01	0.93	0.88	53	0.37	0.01	0.92	0.90
25	0.17	0.01	0.98	0.96	54	1.62	0.01	1.18	1.40
26	0.20	0.01	1.08	1.10	55	0.42	0.01	0.94	0.91
27	0.06	0.01	0.97	0.97	56	0.46	0.01	1.11	1.15
28	1.05	0.01	1.09	1.16	57	0.56	0.01	0.88	0.86
29	-0.85	0.01	0.94	0.95	58	0.75	0.01	1.34	1.46

**Table 7.2.1.18**  
**2008 Spring AIMS IRT Item Statistics**  
**Science Grade 8 Form B**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-1.48	0.02	0.96	1.05	30	-0.68	0.01	0.96	0.95
2	-0.45	0.01	0.98	0.95	31	1.42	0.01	1.08	1.15
3	-0.75	0.01	0.93	0.93	32	-0.27	0.01	1.05	1.08
4	-2.39	0.01	0.87	0.60	33	0.05	0.01	1.04	1.10
5	-1.85	0.01	0.99	1.02	34	-0.10	0.01	0.95	0.91
6	-1.53	0.01	0.87	0.67	35	0.24	0.01	1.07	1.10
7	-0.36	0.01	1.00	0.99	36	-1.33	0.01	0.91	0.88
8	0.54	0.01	1.13	1.15	37	0.65	0.01	1.03	1.05
9	-0.02	0.01	1.00	1.00	38	-0.40	0.01	1.03	1.14
10	0.15	0.01	1.21	1.36	39	0.32	0.01	1.08	1.14
11	-1.33	0.01	0.88	0.75	40	-1.25	0.01	0.86	0.67
12	0.15	0.01	1.09	1.13	41	0.52	0.01	0.98	0.98
13	-0.49	0.01	1.09	1.22	42	0.46	0.01	0.95	0.94
14	-0.09	0.01	1.01	1.02	43	0.88	0.01	0.93	0.93
15	-0.70	0.01	0.95	1.02	44	0.64	0.01	1.02	1.04
16	-0.49	0.01	0.98	0.97	45	-0.40	0.01	0.84	0.76
17	0.10	0.01	0.99	0.99	46	1.15	0.01	1.09	1.17
18	-0.03	0.01	1.00	0.96	47	1.11	0.01	1.12	1.19
19	-1.13	0.01	0.96	0.98	48	0.87	0.01	0.99	1.00
20	-0.42	0.01	0.90	0.81	49	0.21	0.01	0.91	0.88
21	-0.05	0.01	1.08	1.10	50	-0.72	0.01	0.91	0.82
22	0.48	0.01	1.19	1.24	51	0.73	0.01	1.17	1.21
23	-0.40	0.01	0.94	0.91	52	1.10	0.01	0.95	0.97
24	-0.37	0.01	0.87	0.80	53	0.37	0.01	0.92	0.90
25	0.07	0.01	0.94	0.92	54	1.62	0.01	1.18	1.40
26	0.20	0.01	1.08	1.10	55	0.09	0.01	0.95	0.93
27	0.06	0.01	0.97	0.97	56	-0.22	0.01	0.92	0.84
28	0.45	0.01	0.93	0.91	57	0.50	0.01	0.91	0.89
29	1.03	0.01	0.99	1.03	58	0.87	0.01	1.06	1.10

**Table 7.2.1.19**  
**2008 Spring AIMS IRT Item Statistics**  
**Science Grade HS Form A**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-2.04	0.02	0.91	0.70	33	0.14	0.01	1.03	1.03
2	-2.04	0.02	0.96	0.88	34	0.22	0.01	1.02	1.03
3	-1.02	0.02	0.89	0.82	35	0.65	0.01	0.99	1.01
4	-1.99	0.02	0.86	0.64	36	0.00	0.01	0.99	1.00
5	-1.34	0.01	1.00	1.02	37	0.69	0.01	1.02	1.05
6	-0.61	0.01	1.07	1.16	38	0.52	0.01	1.06	1.09
7	-1.11	0.01	0.92	0.86	39	0.10	0.01	1.16	1.22
8	-1.18	0.02	0.90	0.83	40	-1.20	0.02	0.85	0.76
9	-0.92	0.02	0.85	0.75	41	-0.06	0.01	0.97	0.95
10	-0.76	0.02	1.02	1.00	42	1.16	0.02	1.08	1.18
11	-0.28	0.01	0.95	0.90	43	0.53	0.01	1.02	1.03
12	-0.09	0.01	1.00	1.01	44	1.07	0.01	0.95	0.99
13	-0.72	0.02	0.93	0.91	45	0.85	0.01	0.97	1.01
14	0.17	0.01	1.09	1.14	46	-0.43	0.01	0.96	0.95
15	-0.59	0.02	0.89	0.85	47	-0.57	0.01	0.99	1.01
16	-0.60	0.01	0.99	1.03	48	-0.14	0.01	0.89	0.86
17	-1.39	0.01	0.81	0.64	49	0.72	0.01	1.02	1.04
18	-0.80	0.02	0.86	0.80	50	0.35	0.01	0.95	0.94
19	-1.04	0.02	0.83	0.72	51	-0.33	0.01	0.89	0.85
20	-0.25	0.01	1.01	1.04	52	0.32	0.01	1.06	1.09
21	0.91	0.02	1.06	1.09	53	0.89	0.02	1.10	1.19
22	-0.67	0.02	0.95	0.98	54	0.91	0.02	1.11	1.17
23	-0.18	0.01	1.05	1.10	55	-0.20	0.01	1.02	1.01
24	0.33	0.01	1.04	1.05	56	-0.02	0.01	0.93	0.91
25	-0.32	0.01	0.93	0.92	57	1.00	0.02	1.17	1.27
26	-0.25	0.01	1.00	1.04	58	0.95	0.01	0.97	0.99
27	-0.24	0.01	0.97	0.95	59	0.82	0.01	1.05	1.09
28	-0.23	0.01	0.93	0.89	60	1.03	0.02	1.18	1.31
29	1.01	0.02	1.01	1.06	61	1.05	0.02	1.15	1.29
30	0.15	0.01	1.05	1.08	62	1.34	0.02	1.11	1.26
31	0.39	0.01	1.00	1.00	63	1.79	0.02	1.09	1.41
32	0.38	0.01	0.97	0.97	64	1.16	0.02	1.19	1.36

**Table 7.2.1.20**  
**2008 Spring AIMS IRT Item Statistics**  
**Science Grade HS Form B**

Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit	Item	Rasch Difficulty	SE	MNSQ Infit	MNSQ Outfit
1	-0.61	0.02	1.00	0.97	33	1.20	0.02	1.09	1.20
2	-1.73	0.02	0.84	0.62	34	0.65	0.01	0.99	1.01
3	-1.04	0.02	0.92	0.87	35	0.21	0.01	1.01	1.02
4	-0.34	0.02	0.99	0.96	36	0.89	0.02	1.08	1.13
5	-1.34	0.01	1.00	1.02	37	0.42	0.01	1.11	1.15
6	-0.61	0.01	1.07	1.16	38	0.26	0.01	1.02	1.02
7	-1.11	0.01	0.92	0.86	39	-0.67	0.02	0.85	0.77
8	-0.49	0.02	1.00	0.99	40	0.33	0.01	1.03	1.06
9	-0.02	0.01	1.01	1.01	41	0.39	0.01	1.05	1.07
10	0.37	0.01	1.00	1.00	42	0.88	0.02	1.02	1.11
11	-0.28	0.01	0.95	0.90	43	0.66	0.01	1.04	1.07
12	-0.09	0.01	1.00	1.01	44	1.07	0.01	0.95	0.99
13	-0.53	0.02	0.84	0.82	45	0.85	0.01	0.97	1.01
14	-1.08	0.02	0.78	0.62	46	-0.43	0.01	0.96	0.95
15	-0.60	0.01	0.99	1.03	47	-0.57	0.01	0.99	1.01
16	-1.39	0.01	0.81	0.64	48	-0.14	0.01	0.89	0.86
17	-0.49	0.02	1.02	1.02	49	0.87	0.02	1.15	1.24
18	-1.14	0.02	0.88	0.78	50	0.72	0.02	1.11	1.16
19	-0.98	0.02	0.94	0.97	51	0.24	0.01	1.04	1.07
20	-1.44	0.02	0.87	0.72	52	-0.16	0.01	0.96	0.92
21	-0.27	0.02	1.13	1.21	53	1.78	0.02	1.13	1.32
22	-0.94	0.02	0.81	0.69	54	0.71	0.02	1.09	1.14
23	0.33	0.01	1.04	1.05	55	0.35	0.01	0.91	0.90
24	-0.32	0.01	0.93	0.92	56	-0.24	0.02	0.94	0.91
25	-0.25	0.01	1.00	1.04	57	0.02	0.01	0.90	0.87
26	0.70	0.02	1.16	1.22	58	0.95	0.01	0.97	0.99
27	0.58	0.01	1.06	1.09	59	0.82	0.01	1.05	1.09
28	-0.50	0.02	0.93	0.94	60	0.55	0.01	1.07	1.10
29	0.15	0.01	1.05	1.08	61	-0.11	0.01	0.97	0.95
30	0.39	0.01	1.00	1.00	62	0.71	0.02	1.23	1.32
31	0.52	0.01	1.02	1.04	63	0.97	0.02	1.12	1.20
32	-0.20	0.01	0.95	0.93	64	0.64	0.01	1.03	1.05



### 7.3 Scaling Methods

In 2005, a scale of measurement was determined for each of the AIMS CRT Reading and Mathematics. The AIMS CRT Reading and Mathematics in grades 3-8 were placed on a vertical scale through the use of external anchor items comprised of *TerraNova* NRT items for which item parameters had been obtained during national standardization. The desired AIMS scales for Grades 3-8 ranged from 200 to 800. The high school Reading and Mathematics were placed on a separate scale that ranged from 500 to 900 with an approximate mean of 700. The standard deviations were 40, 50, and 25 for Mathematics, Reading, and Writing, respectively. The AIMS high school assessments were not placed on the grades 3-8 vertical scale. A detailed description concerning the development of the scale of measurement for the AIMS can be found in section 7.2.1 of the 2005 AIMS Technical Report and is available from the Arizona Department of Education:

[www.azed.gov/standards/aims/Administering/AIMSTechReport2005.pdf](http://www.azed.gov/standards/aims/Administering/AIMSTechReport2005.pdf).

A scale of measurement was determined for Science using Spring 2008 operational test results and Meet cut score from standard setting. A detailed description concerning the development of the scale of measurement can be found in Appendix B. Science scales are not on a vertical scale. Each grade has its own unique scale so that the scale scores for different grades can not be compared. The desired AIMS scales for each grade 4, 8, and high school ranged from 200 to 800.

### 7.4 Equating

#### 7.4.1 Reading, Mathematics and Science

The 2008 AIMS Reading and Mathematics tests were equated and placed on the operational 2005 AIMS scale using a common-item, non-equivalent groups design. A set of anchor items were selected from the 2007 operational assessments before the item selection workshop. The anchor items were selected with two principles in mind. First, the subset of anchor items should represent the content covered by the full AIMS assessment. Second, the subset of anchor items should be representative of the distribution of item difficulties for the full assessment. All items, including the dual purpose items in DPA Reading and Mathematics tests, were eligible to be considered anchor items.

In Spring 2008, two Science forms A and B were spiraled within classroom to be administered to two equivalent groups. These two forms have common items set to be used for equating two alternate forms. Using common item randomly equivalent design, two forms were equated. A detailed description concerning the equating process can be found in Appendix B. One of the forms, A or B, developed in 2008 will be alternatively administered in the future.

Table 7.4.1.1 and 7.4.1.2 present the number of anchor/common items for each grade/subject area. Tables 7.4.1.3 through 7.4.1.5 present representation of content charts for the 2008 anchor/common items compared against the 2007 operational form. Tables 7.4.1.6 through 7.4.1.8 present descriptive statistics for the 2008 anchor/common item difficulties and the 2007 operational form.

**Table 7.4.1.1**  
**Spring 2008 AIMS Anchor Items**

Content	Grade	CRT Total (CRT + NRT/CRT)	Anchor (Common CRT : Spring 2007 and Spring 2008)
Mathematics	03	72	33
	04	70	35
	05	68	29
	06	68	26
	07	68	30
	08	66	36
	HS	85*	29
Reading	03	54	20
	04	54	18
	05	54	18
	06	54	21
	07	54	28
	08	54	24
	HS	54*	20

\* no NRT/CRT items were used on the HS test.

**Table 7.4.1.2**  
**Spring 2008 AIMS Common Items for Science**

Content	Grade	Form	CRT Total	Common Items between Form A and Form B
Science	4	A	54	22
	4	B	54	22
	8	A	58	27
	8	B	58	27
	HS	A	64	20
	HS	B	64	20

**Table 7.4.1.3**  
**Representation of Content by 2008 Anchor Sets, Mathematics**

Content and Grade	Items		Strand and Concept																					Total
			1			2			3					4					5					
			1	2	3	1	2	3/4	1	2	1/2	3	4	3/4	1	2	1/2	3	4	3/4	1	2	1/2	
MA																								
3	All (Target)	N	11	10	4	4	4	4		8			8			6			9			4		72
		Pct	15.3	13.9	5.56	5.56	5.56	5.56		11.1			11.1			8.33			12.5			5.56		100
All Anchor	N	4	4	2	1	2	3		5			3			3			4			2		33	
	Pct	12.1	12.1	6.06	3.03	6.06	9.09		15.2			9.09			9.09			12.1			6.06		100	
4	All (Target)	N	9	8	4	4	4	4		8			8			7			10			4		70
		Pct	12.9	11.4	5.71	5.71	5.71	5.71		11.4			11.4			10			14.3			5.71		100
All Anchor	N	3	3	2	1	4	1		6			5			3			4			3		35	
	Pct	8.57	8.57	5.71	2.86	11.4	2.86		17.1			14.3			8.57			11.4			8.57		100	
5	All (Target)	N	7	9	4	4	4	4		8			8			7			9			4		68
		Pct	10.3	13.2	5.88	5.88	5.88	5.88		11.8			11.8			10.3			13.2			5.88		100
All Anchor	N	2	4	1	3	2	1		5			4			2			2			3		29	
	Pct	6.9	13.8	3.45	10.3	6.9	3.45		17.2			13.8			6.9			6.9			10.3		100	
6	All (Target)	N	4	7	4	4	4	6		8			8			8			11			4		68
		Pct	5.88	10.3	5.88	5.88	5.88	8.82		11.8			11.8			11.8			16.2			5.88		100
All Anchor	N	1	2	1	1	2	3		3			4			2			5			2		26	
	Pct	3.85	7.69	3.85	3.85	7.69	11.5		11.5			15.4			7.69			19.2			7.69		100	
7	All (Target)	N	5	6	4	6	4	4		8			8			9			10			4		68
		Pct	7.35	8.82	5.88	8.82	5.88	5.88		11.8			11.8			13.2			14.7			5.88		100
All Anchor	N	2	2	1	1	3	1		5			3			4			6			2		30	
	Pct	6.67	6.67	3.33	3.33	10	3.33		16.7			10			13.3			20			6.67		100	
8	All (Target)	N	4	4	4	7	4	4	4	4			10			9	4	4				4		66
		Pct	6.06	6.06	6.06	10.6	6.06	6.06	6.06	6.06	6.06			15.2			13.6	6.06	6.06				6.06	
All Anchor	N	2	1	1	5	1	2		2			6			7	3	4				2		36	
	Pct	5.56	2.78	2.78	13.9	2.78	5.56		5.56			16.7			19.4	8.33	11.1				5.56		100	
HS	All (Target)	N	4	4	4	8	4	4	4	6			12	4		8	4		6	5		4	4	85
		Pct	4.71	4.71	4.71	9.41	4.71	4.71	4.71	7.06			14.1	4.71		9.41	4.71		7.06	5.88		4.71	4.71	100
All Anchor	N	1	1	2	2	1	1	1	2			5	1		3	1		2	2		2	2	29	
	Pct	3.45	3.45	6.9	6.9	3.45	3.45	3.45	6.9			17.2	3.45		10.3	3.45		6.9	6.9		6.9	6.9	100	

**Table 7.4.1.4**  
**Representation of Content by 2008 Anchor Sets, Reading**

Content and Grade	Items		Strand and Concept									Total
			1				2		3			
			1	3	4	6	1	2	1	2	3	
RD												
3	All (Target)	N	4	5	6	9	12		6	6	6	54
		Pct	7.41	9.26	11.11	16.67	22.22		11.11	11.11	11.11	100
	All Anchor	N	3	3	1	1	5		3	2	2	20
		Pct	15	15	5	5	25		15	10	10	100
4	All (Target)	N			4	8	17		13	6	6	54
		Pct			7.41	14.81	31.48		24.07	11.11	11.11	100
	All Anchor	N			1	3	2		6	3	3	18
		Pct			5.56	16.67	11.11		33.33	16.67	16.67	100
5	All (Target)	N			6	6	17		13	6	6	54
		Pct			11.11	11.11	31.48		24.07	11.11	11.11	100
	All Anchor	N			2	1	6		4	3	2	18
		Pct			11.11	5.56	33.33		22.22	16.67	11.11	100
6	All (Target)	N			6	6	17		13	6	6	54
		Pct			11.11	11.11	31.48		24.07	11.11	11.11	100
	All Anchor	N			1	3	6		5	3	3	21
		Pct			4.76	14.29	28.57		23.81	14.29	14.29	100
7	All (Target)	N			6	6	13	4	12	7	6	54
		Pct			11.11	11.11	24.07	7.41	22.22	12.96	11.11	100
	All Anchor	N			2	2	7	4	5	4	4	28
		Pct			7.14	7.14	25	14.29	17.86	14.29	14.29	100
8	All (Target)	N			4	5	14	4	13	8	6	54
		Pct			7.41	9.26	25.93	7.41	24.07	14.81	11.11	100
	All Anchor	N			1	2	6	4	3	4	4	24
		Pct			4.17	8.33	25	16.67	12.5	16.67	16.67	100
HS	All (Target)	N			4	4	14	4	12	8	8	54
		Pct			7.41	7.41	25.93	7.41	22.22	14.81	14.81	100
	All Anchor	N			1	2	6	1	3	3	4	20
		Pct			5	10	30	5	15	15	20	100

**Table 7.4.1.5**  
**Representation of Content by 2008 Common Item Sets, Science**

Content, Grade and Form	Items		Strand and Concept															Total	
			1				2	3	4					5			6		
			1	2	3	4	1	1	1	2	3	4	5	1	2	3	2		3
SC																			
4-A	All (Target)	N	6	6	6		6	6	6							6	6	6	54
		Pct	11.11	11.11	11.11		11.11	11.11	11.11							11.11	11.11	11.11	100
		Common	2	2	2		3	3	2							2	3	3	22
	Items	Pct	9.09	9.09	9.09		13.64	13.64	9.09						9.09	13.64	13.64	100	
4-B	All (Target)	N	6	6	6		6	6	6						6	6	6	54	
		Pct	11.11	11.11	11.11		11.11	11.11	11.11						11.11	11.11	11.11	100	
		Common	2	2	2		3	3	2						2	3	3	22	
	Items	Pct	9.09	9.09	9.09		13.64	13.64	9.09					9.09	13.64	13.64	100		
8-A	All (Target)	N	6	4	6	4	6	6		8				10	8			58	
		Pct	10.34	6.9	10.34	6.9	10.34	10.34		13.79				17.24	13.79			100	
		Common	2	2	2	2	3	4		3				5	4			27	
	Items	Pct	7.41	7.41	7.41	7.41	11.11	14.81		11.11			18.52	14.81				100	
8-B	All (Target)	N	6	4	6	4	6	6		8				10	8			58	
		Pct	10.34	6.9	10.34	6.9	10.34	10.34		13.79				17.24	13.79			100	
		Common	2	2	2	2	3	4		3				5	4			27	
	Items	Pct	7.41	7.41	7.41	7.41	11.11	14.81		11.11			18.52	14.81				100	
HS-A	All (Target)	N	5	6	6	4	6	7	6	6	6	6	6					64	
		Pct	7.81	9.38	9.38	6.25	9.38	10.94	9.38	9.38	9.38	9.38	9.38	9.38					100
		Common	3	2	1	1	2	3	2	2	1	2	1						20
	Items	Pct	15.00	10.00	5.00	5.00	10.00	15.00	10.00	10.00	5.00	10.00	5.00					100	
HS-B	All (Target)	N	5	6	6	4	6	7	6	6	6	6	6					64	
		Pct	7.81	9.38	9.38	6.25	9.38	10.94	9.38	9.38	9.38	9.38	9.38	9.38					100
		Common	3	2	1	1	2	3	2	2	1	2	1						20
	Items	Pct	15.00	10.00	5.00	5.00	10.00	15.00	10.00	10.00	5.00	10.00	5.00					100	

**Table 7.4.1.6**  
**Representation of Difficulty by 2008 Anchor Sets, Mathematics**

Content	Grade	Statistic	Difficulty Parameter		P-Value	
			Entire 2007	All Anchor	Entire 2007	All Anchor
			Test	Items	Test	Items
MA	03	N	72	33	72	33
		Mean	0.0977	0.2615	0.70	0.67
		Std Dev	1.0433	0.8886	0.15	0.15
		Min	-3.7889	-1.2116	0.38	0.38
		Max	1.9507	1.8927	0.99	0.89
MA	04	N	70	35	70	35
		Mean	0.1599	0.0653	0.72	0.73
		Std Dev	0.8329	0.6842	0.12	0.10
		Min	-1.7869	-1.3142	0.45	0.45
		Max	2.1376	1.6923	0.94	0.90
MA	05	N	68	29	68	29
		Mean	0.1796	0.2559	0.69	0.68
		Std Dev	0.8333	0.8887	0.12	0.13
		Min	-1.7301	-1.7301	0.41	0.41
		Max	2.0354	2.0354	0.92	0.92
MA	06	N	68	26	68	26
		Mean	0.0514	0.1984	0.69	0.67
		Std Dev	0.8519	0.6402	0.13	0.10
		Min	-2.2329	-1.4566	0.28	0.49
		Max	2.4917	1.2086	0.94	0.92
MA	07	N	68	30	68	30
		Mean	0.0954	-0.0068	0.70	0.72
		Std Dev	0.8383	0.7220	0.13	0.11
		Min	-1.3728	-1.2614	0.36	0.48
		Max	2.0415	1.2875	0.89	0.88
MA	08	N	66	36	66	36
		Mean	0.1056	-0.0161	0.66	0.68
		Std Dev	0.8735	0.7795	0.15	0.12
		Min	-1.7704	-1.7704	0.32	0.37
		Max	2.0266	1.8403	0.90	0.90
MA	HS	N	84	29	84	29
		Mean	0.1558	0.0794	0.66	0.67
		Std Dev	0.8547	0.8552	0.14	0.14
		Min	-1.8719	-1.8719	0.35	0.45
		Max	1.8708	1.3607	0.94	0.94

**Table 7.4.1.7**  
**Representation of Difficulty by 2008 Anchor Sets, Reading**

Content	Grade	Statistic	Difficulty Parameter		P-Value	
			Entire 2007	All Anchor	Entire 2007	All Anchor
			Test	Items	Test	Items
RD	03	N	54	20	54	20
		Mean	0.0991	0.2676	0.67	0.65
		Std Dev	0.9497	0.9509	0.15	0.15
		Min	-2.1877	-1.8340	0.30	0.37
		Max	2.2260	1.7748	0.94	0.91
RD	04	N	54	18	54	18
		Mean	-0.0294	-0.0406	0.70	0.71
		Std Dev	0.8073	0.8519	0.12	0.13
		Min	-1.5982	-1.2246	0.28	0.36
		Max	2.2952	1.8556	0.90	0.87
RD	05	N	54	18	54	18
		Mean	0.1058	0.0192	0.67	0.68
		Std Dev	0.7091	0.8816	0.11	0.13
		Min	-2.0399	-2.0399	0.40	0.50
		Max	1.5797	0.9819	0.92	0.92
RD	06	N	54	21	54	21
		Mean	0.0552	0.3379	0.67	0.63
		Std Dev	0.8867	0.8189	0.14	0.14
		Min	-1.8976	-1.3166	0.38	0.44
		Max	1.6849	1.3644	0.92	0.88
RD	07	N	54	28	54	28
		Mean	0.1067	-0.0248	0.67	0.69
		Std Dev	0.6916	0.6364	0.11	0.10
		Min	-1.7336	-1.3681	0.33	0.48
		Max	1.9807	1.2822	0.91	0.88
RD	08	N	54	24	54	24
		Mean	-0.0084	0.0251	0.66	0.65
		Std Dev	0.7297	0.6399	0.12	0.11
		Min	-1.5395	-1.3378	0.29	0.41
		Max	1.9964	1.3218	0.91	0.85
RD	HS	N	54	20	54	20
		Mean	0.1014	0.0972	0.67	0.68
		Std Dev	0.8418	0.7299	0.13	0.11
		Min	-1.6683	-1.6280	0.28	0.48
		Max	2.2940	1.3874	0.91	0.90

**Table 7.4.1.8**  
**Representation of Difficulty by 2008 Common Item Sets, Science**

Content	Grade	Statistic	Difficulty Parameter			P-Value			
			Entire Form A	Entire Form B	Common Set	Entire Form A	Entire Form B	Common Set Form A	Common Set Form B
SC	4	N	54	54	22	54	54	22	22
		Mean	-0.0756	-0.0313	-0.2623	0.63	0.62	0.65	0.66
		Std Dev	1.0752	1.0859	1.1975	0.18	0.18	0.18	0.19
		Min	-2.8583	-2.8583	-2.8583	0.29	0.32	0.38	0.36
		Max	1.7474	1.6221	1.3498	0.96	0.96	0.96	0.96
SC	8	N	58	58	27	58	58	27	27
		Mean	-0.0400	-0.0458	-0.1842	0.61	0.61	0.64	0.64
		Std Dev	0.9009	0.8243	0.9227	0.16	0.14	0.15	0.15
		Min	-2.3881	-2.3881	-2.3881	0.17	0.31	0.30	0.31
		Max	2.4953	1.6155	1.6155	0.93	0.93	0.93	0.93
SC	HS	N	64	64	20	64	64	20	20
		Mean	-0.0310	0.0011	-0.0956	0.55	0.55	0.57	0.57
		Std Dev	0.8714	0.7528	0.7400	0.16	0.15	0.14	0.15
		Min	-2.0407	-1.7297	-1.3888	0.21	0.22	0.34	0.34
		Max	1.7899	1.7789	1.0678	0.88	0.85	0.80	0.81



A fixed-parameter equating was implemented within WINSTEPS in order to link the 2008 Reading and Mathematics tests to the operational reporting scale. This is implemented by constraining the 2008 parameter estimates for the common anchor items to equal the final parameter estimates obtained in the 2005 AIMS calibration analyses. Displacement statistics that estimate the difference between the fixed parameter and the estimate had the item parameter not been constrained were evaluated for each anchor item. Displacement statistics greater than 0.5 or less than -0.5 are considered significant in the Rasch literature, and caused the anchor item to be removed from the anchor set. The following procedure was used to examine anchor item performance and determine whether to remove anchor items that exhibited significant displacement statistics from the annual equating:

1. All anchor items with displacement statistics greater than 0.3 or less than -0.3 were flagged. Any item with displacement statistics greater than 0.5 or less than -0.5 was dropped from anchor item set. If more than one item is observed with displacement statistics greater than 0.5 or less than -0.5, then only the first item with largest displacement value will be dropped from anchor set. The displacement values of the remaining anchor items will be re-estimated by equating the test again using the remaining anchor items. All additional items will be noted and carried over for removal from the anchor set next year. The second or succeeding items will be addressed by not selecting them as anchors for that year.
2. Anchor items with displacement statistics greater than 0.3 and less than 0.5 or less than -0.3 and greater than -0.5 were investigated using infit, outfit, item difficulty, and point-biserial correlation. If either infit and outfit were flagged for the anchor item, the removal of this item was considered. Also, if any item shows point-biserial correlation less than 0.3 the removal of this item was considered.
3. Whenever anchor item(s) were removed, content and difficulty representativeness of the remaining anchor set was examined. In instances where more than one anchor item is considered for removal for a given content and grade, content strand and difficulty level of the item should be considered to prevent removal of more than one item from the same content strand and difficulty level.
4. If more than one item would have been removed from the same content strand, a note will/should be made to address the problem in the setup of anchors for the succeeding year's assessment.

In all Reading and Mathematics grades, there was one High school Mathematics anchor item that was removed from equating.

#### **7.4.2 Writing**

In order to expedite score reporting, the Writing prompts administered in 2007 Field test were taken from a prompt bank that had been linked to the AIMS Writing scale prior to actual administration. The technical report, "2008 Writing Assessment Pre-Linking Study", describes pre-linking sampling, design, linking process, and final scoring tables.

### 7.4.3 Scoring and Standard Error of Measurement

Item response theory makes available two types of scoring: number-correct and item-pattern. With number-correct scoring, a student's number-correct score (or raw score) is converted to a scale score. Item-pattern scoring calculates a student's scale score, taking into account not only how many items a student answered correctly, but also which items, and the characteristics of each item. For groups of 25 or more students, the two methods produce tau-equivalent results (Yen, 1984.) Tau-equivalent means that examinees are expected to receive the same score on average between the two methods. Number-correct scoring was used to derive scales scores for the AIMS CRT tests, while the AIMS NRT tests were scored using item-pattern scoring with *TerraNova* national standardization item parameters.

Typically, a test score is obtained from a single observation of behavior and represents an estimate of the trait being measured. As an estimate, an observed test score contains some measurement error and does not perfectly reflect an individual's true score. The degree of measurement error in a test score can be estimated using a statistic called the standard error of measurement (SEM).

A student's exact true score cannot be known. The true score is defined as the average test score that would result if the test could be administered repeatedly without the effects of practice or fatigue. The standard error of measurement is an estimate of the standard deviation of an individual's observed scores from these repeated administrations. For practical purposes, this statistic can be used to obtain a range within which a student's true score is likely to fall. Using item response theory, the standard error of measurement can be calculated for every possible scale score. These SEM values can be computed for both number-correct and item-pattern scoring.

Tables 7.4.3.1 through 7.4.3.28 present raw score to scale score conversion tables and IRT conditional standard errors of measurement for all AIMS CRT tests. The values in bold represent the scale score with the smallest value greater than or equal to the established cut score for each grade level and content area. The greater than portion of this rule is evoked when the actual scale score is not observed in any given table. Tables 7.4.3.29 through 7.4.3.34 present IRT conditional standard errors of measurement for all AIMS NRT tests.

**Table 7.4.3.1**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Mathematics CRT Grade 3**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	200	40	37	402	11
1	200	40	38	405	11
2	225	31	39	408	11
3	245	26	40	411	11
4	259	23	41	413	11
5	270	21	42	416	11
6	280	19	43	419	11
7	288	18	<b>44</b>	<b>422</b>	<b>11</b>
8	295	17	45	425	11
9	302	16	46	428	11
10	308	15	47	431	11
11	313	15	48	434	11
12	318	14	49	437	11
13	323	14	50	440	11
14	328	13	51	443	12
15	332	13	52	446	12
16	336	13	53	450	12
17	340	13	54	453	12
18	344	12	55	457	12
19	347	12	56	460	12
20	351	12	57	464	13
21	354	12	58	468	13
22	358	12	59	473	13
23	361	12	60	477	14
24	364	11	61	482	14
25	367	11	62	487	15
26	370	11	<b>63</b>	<b>492</b>	<b>15</b>
27	374	11	64	498	16
28	376	11	65	505	17
29	379	11	66	512	18
30	382	11	67	521	20
31	385	11	68	531	22
<b>32</b>	<b>388</b>	<b>11</b>	69	544	25
33	391	11	70	562	30
34	394	11	71	591	42
35	397	11	72	650	84
36	399	11			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 386, 420, 492.

**Table 7.4.3.2**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Mathematics CRT Grade 4**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	230	40	36	425	11
1	230	40	37	428	11
2	251	32	38	431	12
3	270	27	39	434	12
4	284	24	40	437	12
5	295	21	41	440	12
6	305	20	42	443	12
7	313	18	43	446	12
8	320	17	<b>44</b>	<b>449</b>	<b>12</b>
9	326	17	45	452	12
10	332	16	46	456	12
11	338	15	47	459	12
12	343	15	48	462	12
13	347	14	49	465	12
14	352	14	50	469	13
15	356	14	51	473	13
16	360	13	52	476	13
17	364	13	53	480	13
18	368	13	54	484	13
19	372	13	55	488	14
20	375	13	56	492	14
21	379	12	57	497	14
22	382	12	58	502	15
23	386	12	59	507	15
24	389	12	60	512	16
25	392	12	61	518	17
26	395	12	<b>62</b>	<b>524</b>	<b>17</b>
27	398	12	63	532	18
28	401	12	64	540	20
29	404	12	65	549	21
30	407	12	66	560	23
31	410	12	67	574	27
32	413	12	68	593	32
<b>33</b>	<b>416</b>	<b>11</b>	69	626	46
34	419	11	70	675	77
35	422	11			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 414, 448, 521.

**Table 7.4.3.3**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Mathematics CRT Grade 5**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	255	50	35	460	11
1	272	41	36	463	11
2	302	29	37	466	11
3	319	24	38	469	11
4	332	21	39	472	11
5	342	19	40	474	11
6	351	18	<b>41</b>	<b>477</b>	<b>11</b>
7	358	17	42	480	11
8	365	16	43	483	11
9	371	15	44	486	11
10	376	15	45	489	11
11	381	14	46	492	11
12	386	14	47	495	11
13	390	13	48	498	11
14	395	13	49	502	12
15	399	13	50	505	12
16	403	12	51	509	12
17	406	12	52	512	12
18	410	12	53	516	12
19	413	12	54	520	13
20	417	12	55	524	13
21	420	11	56	528	13
22	423	11	57	533	14
23	426	11	58	538	14
24	429	11	59	543	15
25	432	11	60	549	16
26	435	11	<b>61</b>	<b>556</b>	<b>17</b>
27	438	11	62	563	18
28	441	11	63	572	19
<b>29</b>	<b>444</b>	<b>11</b>	64	582	21
30	447	11	65	595	24
31	449	11	66	612	29
32	452	11	67	642	41
33	455	11	68	700	83
34	458	11			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 442, 476, 550.

**Table 7.4.3.4**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Mathematics CRT Grade 6**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	270	44	35	474	12
1	270	44	36	477	12
2	298	33	37	480	12
3	318	27	38	483	12
4	333	24	39	487	12
5	344	22	40	490	12
6	354	20	41	493	12
7	362	19	<b>42</b>	<b>496</b>	<b>12</b>
8	369	18	43	499	12
9	376	17	44	502	12
10	382	16	45	506	12
11	388	16	46	509	12
12	393	15	47	512	13
13	398	15	48	516	13
14	402	14	49	519	13
15	407	14	50	523	13
16	411	14	51	527	13
17	415	13	52	531	14
18	419	13	53	535	14
19	423	13	54	539	14
20	426	13	55	544	15
21	430	13	56	549	15
22	434	12	57	554	15
23	437	12	58	559	16
24	440	12	59	565	17
25	444	12	60	572	18
26	447	12	<b>61</b>	<b>579</b>	<b>19</b>
27	450	12	62	587	20
28	453	12	63	596	21
29	456	12	64	607	24
30	459	12	65	621	27
31	462	12	66	641	33
<b>32</b>	<b>465</b>	<b>12</b>	67	673	46
33	468	12	68	725	80
34	471	12			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 463, 496, 574.

**Table 7.4.3.5**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Mathematics CRT Grade 7**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	290	50	35	500	11
1	302	44	36	503	11
2	333	31	37	506	11
3	352	26	38	509	11
4	365	23	39	512	11
5	376	21	40	515	11
6	385	19	<b>41</b>	<b>518</b>	<b>12</b>
7	393	18	42	521	12
8	400	17	43	524	12
9	406	16	44	527	12
10	411	15	45	530	12
11	417	15	46	534	12
12	422	14	47	537	12
13	426	14	48	540	12
14	431	14	49	544	12
15	435	13	50	548	13
16	439	13	51	551	13
17	443	13	52	555	13
18	446	13	53	559	13
19	450	12	54	564	14
20	454	12	55	568	14
21	457	12	56	573	14
22	460	12	57	578	15
23	464	12	58	583	15
24	467	12	59	589	16
25	470	12	60	595	17
26	473	12	<b>61</b>	<b>602</b>	<b>18</b>
27	476	11	62	610	19
28	479	11	63	619	21
29	482	11	64	630	23
<b>30</b>	<b>485</b>	<b>11</b>	65	643	26
31	488	11	66	662	31
32	491	11	67	693	44
33	494	11	68	740	74
34	497	11			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 484, 517, 599.

**Table 7.4.3.6**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Mathematics CRT Grade 8**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	300	47	34	515	13
1	300	47	35	518	13
2	330	35	36	522	13
3	351	29	37	525	13
4	366	25	38	529	13
5	378	23	39	532	13
6	388	21	40	536	13
7	396	20	<b>41</b>	<b>539</b>	<b>13</b>
8	404	19	42	543	13
9	411	18	43	547	13
10	418	17	44	550	14
11	423	17	45	554	14
12	429	16	46	558	14
13	434	16	47	562	14
14	439	15	48	567	14
15	444	15	49	571	15
16	448	15	50	575	15
17	453	14	51	580	15
18	457	14	52	585	16
19	461	14	53	590	16
20	465	14	54	596	16
21	469	14	55	601	17
22	473	13	56	607	17
23	476	13	57	614	18
24	480	13	58	621	19
25	484	13	<b>59</b>	<b>629</b>	<b>20</b>
26	487	13	60	638	21
27	491	13	61	648	23
28	494	13	62	661	26
29	498	13	63	676	29
30	501	13	64	697	35
31	504	13	65	732	49
<b>32</b>	<b>508</b>	<b>13</b>	66	800	97
33	511	13			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 505, 537, 623.



**Table 7.4.3.7**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Mathematics CRT High School**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	500	37	43	672	8
1	505	35	44	674	8
2	529	25	45	676	8
3	544	21	46	677	8
4	555	18	47	679	8
5	563	16	48	681	8
6	570	15	<b>49</b>	<b>683</b>	<b>8</b>
7	577	14	50	685	8
8	582	13	51	687	8
9	587	13	52	689	8
10	591	12	53	691	8
11	595	12	54	693	8
12	599	11	55	695	8
13	603	11	56	697	8
14	606	11	57	699	8
15	610	10	58	701	9
16	613	10	59	703	9
17	615	10	60	705	9
18	618	10	61	708	9
19	621	10	62	710	9
20	624	9	63	712	9
21	626	9	64	714	9
22	629	9	65	717	9
23	631	9	66	719	9
24	633	9	67	722	10
25	636	9	68	725	10
26	638	9	69	728	10
27	640	9	70	731	10
28	642	9	71	734	10
29	644	9	72	737	11
30	646	8	73	740	11
31	649	8	74	744	11
32	651	8	75	748	12
33	653	8	<b>76</b>	<b>752</b>	<b>12</b>
34	655	8	77	757	13
35	656	8	78	762	14
36	658	8	79	768	15
37	660	8	80	775	16
38	662	8	81	783	18
39	664	8	82	794	20
40	666	8	83	809	25
<b>41</b>	<b>668</b>	<b>8</b>	84	833	35
42	670	8	85	900	91

Note. SEM is the standard error of measurement for the scale score. High School Mathematics scale scores are not on the same vertical scale as grades 3-8.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 668, 683, 750.

**Table 7.4.3.8**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Reading CRT Grade 3**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	200	59	28	417	12
1	230	42	29	421	12
2	261	30	30	424	12
3	279	25	31	428	12
4	293	22	<b>32</b>	<b>432</b>	<b>12</b>
5	304	20	33	436	12
6	313	19	34	439	13
7	321	18	35	443	13
8	329	17	36	447	13
9	335	16	37	451	13
10	341	16	38	455	13
11	347	15	39	460	13
12	352	15	40	464	14
13	357	14	41	469	14
14	362	14	42	474	14
15	367	14	43	479	15
16	371	13	44	484	15
17	375	13	45	490	16
<b>18</b>	<b>379</b>	<b>13</b>	46	496	16
19	384	13	47	503	17
20	387	13	48	511	18
21	391	13	<b>49</b>	<b>520</b>	<b>20</b>
22	395	12	50	531	22
23	399	12	51	544	25
24	403	12	52	562	30
25	406	12	53	592	42
26	410	12	54	640	73
27	414	12			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 379, 431, 516.

**Table 7.4.3.9**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Reading CRT Grade 4**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	220	67	28	427	11
1	264	38	29	430	11
2	291	27	30	434	11
3	307	23	31	437	11
4	319	20	32	440	11
5	329	18	33	444	11
6	337	17	34	447	11
7	344	16	<b>35</b>	<b>451</b>	<b>12</b>
8	350	15	36	454	12
9	356	14	37	458	12
10	361	14	38	462	12
11	366	13	39	466	12
12	371	13	40	470	13
13	375	13	41	474	13
14	379	12	42	478	13
15	383	12	43	483	14
16	387	12	44	488	14
17	391	12	45	493	15
18	394	12	46	499	15
19	398	11	47	506	16
20	401	11	48	513	17
<b>21</b>	<b>405</b>	<b>11</b>	49	522	19
22	408	11	50	531	20
23	411	11	<b>51</b>	<b>544</b>	<b>23</b>
24	414	11	52	561	28
25	418	11	53	589	39
26	421	11	54	660	96
27	424	11			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 402, 450, 536.

**Table 7.4.3.10**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Reading CRT Grade 5**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	240	66	28	454	12
1	280	41	29	457	12
2	309	29	30	461	12
3	327	24	31	464	12
4	340	21	32	467	12
5	350	19	<b>33</b>	<b>471</b>	<b>12</b>
6	359	18	34	474	12
7	366	17	35	478	12
8	373	16	36	481	12
9	379	15	37	485	12
10	385	15	38	489	12
11	390	14	39	493	13
12	395	14	40	497	13
13	399	13	41	501	13
14	404	13	42	505	14
15	408	13	43	510	14
16	412	13	44	515	14
17	416	12	45	521	15
18	420	12	46	527	16
19	423	12	47	533	17
<b>20</b>	<b>427</b>	<b>12</b>	48	540	18
21	430	12	49	549	19
22	434	12	<b>50</b>	<b>559</b>	<b>21</b>
23	437	12	51	571	24
24	441	12	52	589	29
25	444	12	53	618	41
26	447	12	54	675	81
27	451	12			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 424, 468, 556.

**Table 7.4.3.11**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Reading CRT Grade 6**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	250	58	28	460	12
1	279	41	29	463	12
2	309	30	30	467	12
3	327	25	31	471	12
4	340	22	32	474	12
5	351	20	<b>33</b>	<b>478</b>	<b>12</b>
6	360	18	34	482	12
7	367	17	35	485	12
8	374	16	36	489	13
9	381	16	37	493	13
10	387	15	38	497	13
11	392	15	39	502	13
12	397	14	40	506	13
13	402	14	41	510	14
14	407	14	42	515	14
15	411	13	43	520	14
16	415	13	44	525	15
17	419	13	45	531	16
18	423	13	46	537	16
19	427	13	47	544	17
20	431	12	48	552	18
<b>21</b>	<b>435</b>	<b>12</b>	49	561	20
22	439	12	<b>50</b>	<b>571</b>	<b>22</b>
23	442	12	51	584	25
24	446	12	52	602	30
25	449	12	53	631	41
26	453	12	54	690	83
27	456	12			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 433, 478, 571.

**Table 7.4.3.12**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Reading CRT Grade 7**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	260	61	28	476	13
1	289	44	29	479	13
2	320	32	30	483	13
3	339	26	31	486	13
4	353	23	<b>32</b>	<b>490</b>	<b>13</b>
5	364	21	33	494	13
6	373	19	34	498	13
7	381	18	35	501	13
8	389	17	36	505	13
9	395	16	37	509	13
10	401	16	38	514	14
11	407	15	39	518	14
12	412	15	40	522	14
13	417	14	41	527	14
14	421	14	42	532	15
15	426	14	43	537	15
16	430	14	44	543	16
17	434	13	45	549	16
18	438	13	46	555	17
19	442	13	47	563	18
<b>20</b>	<b>446</b>	<b>13</b>	48	571	19
21	450	13	49	580	21
22	454	13	<b>50</b>	<b>591</b>	<b>23</b>
23	457	13	51	605	26
24	461	13	52	624	32
25	465	13	53	655	44
26	468	13	54	720	91
27	472	12			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 443, 489, 587.

**Table 7.4.3.13**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Reading CRT Grade 8**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	270	50	28	482	14
1	270	50	29	487	14
2	305	36	30	491	14
3	326	30	31	495	14
4	342	26	<b>32</b>	<b>499</b>	<b>14</b>
5	355	24	33	503	15
6	366	22	34	508	15
7	375	21	35	512	15
8	383	20	36	516	15
9	390	19	37	521	15
10	397	18	38	526	15
11	404	17	39	531	16
12	410	17	40	536	16
13	415	17	41	541	16
14	421	16	42	547	17
15	426	16	43	552	17
16	431	15	44	559	18
17	436	15	45	565	19
18	440	15	46	573	19
19	445	15	47	581	21
20	449	15	48	590	22
<b>21</b>	<b>453</b>	<b>15</b>	49	600	24
22	458	14	<b>50</b>	<b>613</b>	<b>26</b>
23	462	14	51	629	30
24	466	14	52	650	36
25	470	14	53	686	50
26	474	14	54	800	156
27	478	14			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 452, 499, 602.

**Table 7.4.3.14**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Reading CRT High School**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	500	35	28	671	13
1	500	35	<b>29</b>	<b>675</b>	<b>13</b>
2	511	31	30	678	13
3	530	26	31	682	13
4	544	23	32	686	13
5	555	21	33	690	13
6	565	19	34	694	13
7	573	18	35	698	13
8	580	17	36	702	13
9	587	17	37	706	14
10	593	16	38	710	14
11	599	15	39	715	14
12	604	15	40	719	14
13	609	15	41	724	15
14	614	14	42	729	15
15	619	14	43	735	15
16	623	14	44	740	16
<b>17</b>	<b>628</b>	<b>14</b>	45	746	16
18	632	13	46	753	17
19	636	13	47	760	18
20	640	13	48	768	19
21	644	13	<b>49</b>	<b>778</b>	<b>21</b>
22	648	13	50	789	23
23	652	13	51	802	26
24	656	13	52	821	31
25	660	13	53	853	44
26	663	13	54	900	74
27	667	13			

Note. SEM is the standard error of measurement for the scale score. High School Reading Scale Scores are not on the same vertical scale as grades 3-8.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 627, 674, 773.



**Table 7.4.3.15**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Writing CRT Grade 3**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	200	216	19	438	15
1	200	216	20	450	15
2	200	216	21	461	15
3	200	216	22	472	15
4	200	216	23	485	16
5	200	216	24	498	16
6	200	216	25	510	15
7	299	20	26	521	14
8	315	16	<b>27</b>	<b>530</b>	<b>13</b>
9	327	15	28	539	13
<b>10</b>	<b>338</b>	<b>14</b>	29	547	12
11	349	14	30	555	12
12	359	14	31	563	13
13	370	14	32	572	13
14	380	14	33	581	14
15	390	14	34	593	16
16	401	15	35	611	22
17	413	15	36	650	54
<b>18</b>	<b>426</b>	<b>16</b>			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 337, 424, 529.

**Table 7.4.3.16**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Writing CRT Grade 4**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	230	253	19	483	15
1	230	253	20	494	14
2	230	253	21	504	14
3	230	253	22	515	15
4	230	253	23	528	16
5	230	253	24	541	16
6	230	253	25	554	15
7	334	20	26	566	14
8	350	16	<b>27</b>	<b>576</b>	<b>14</b>
9	363	15	28	585	13
<b>10</b>	<b>374</b>	<b>15</b>	29	595	13
11	387	16	30	604	13
12	401	16	31	614	13
13	414	15	32	623	14
14	426	15	33	634	14
15	437	14	34	646	16
16	447	14	35	663	21
17	459	15	36	700	51
<b>18</b>	<b>471</b>	<b>15</b>			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 366, 461, 572.

**Table 7.4.3.17**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Writing CRT Grade 5**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	255	126	<b>19</b>	<b>504</b>	<b>16</b>
1	255	126	20	516	15
2	255	126	21	528	16
3	255	126	22	540	16
4	255	126	23	553	17
5	255	126	24	567	16
6	255	126	25	579	16
7	345	19	26	591	15
8	361	17	27	601	14
9	374	16	28	611	14
10	388	17	<b>29</b>	<b>621</b>	<b>14</b>
<b>11</b>	<b>402</b>	<b>17</b>	30	631	14
12	416	17	31	641	14
13	430	16	32	652	15
14	442	16	33	664	16
15	454	16	34	679	19
16	466	16	35	707	32
17	479	16	36	740	68
18	491	16			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 394, 497, 615.

**Table 7.4.3.18**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Writing CRT Grade 6**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	275	117	19	523	17
1	275	117	20	536	16
2	275	117	21	549	16
3	275	117	22	561	16
4	275	117	23	574	17
5	275	117	24	590	18
6	275	117	25	606	18
7	346	25	26	619	16
8	367	19	<b>27</b>	<b>631</b>	<b>15</b>
9	382	17	28	642	15
10	395	17	29	652	15
<b>11</b>	<b>409</b>	<b>18</b>	30	663	15
12	426	19	31	673	15
13	443	18	32	684	15
14	457	17	33	695	16
15	470	16	34	707	17
16	482	16	35	724	21
17	495	17	36	760	43
<b>18</b>	<b>509</b>	<b>17</b>			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 400, 504, 630.

**Table 7.4.3.19**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Writing CRT Grade 7**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	290	105	<b>19</b>	<b>524</b>	<b>18</b>
1	290	105	20	541	18
2	290	105	21	555	16
3	290	105	22	567	15
4	290	105	23	579	15
5	290	105	24	591	15
6	290	105	25	603	16
7	290	105	26	615	15
8	353	24	27	625	14
9	374	18	28	635	13
10	389	16	29	643	12
11	402	16	<b>30</b>	<b>650</b>	<b>12</b>
<b>12</b>	<b>416</b>	<b>18</b>	31	658	12
13	434	20	32	665	12
14	454	19	33	672	13
15	469	17	34	681	13
16	482	16	35	691	15
17	495	16	36	770	85
18	508	17			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 407, 510, 645.

**Table 7.4.3.20**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Writing CRT Grade 8**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	300	50	<b>19</b>	<b>519</b>	<b>18</b>
1	300	50	20	533	17
2	300	50	21	546	16
3	300	50	22	559	16
4	300	50	23	573	18
5	300	50	24	589	18
6	300	50	25	604	17
7	341	22	26	616	15
8	359	18	27	627	14
9	373	16	28	636	13
10	386	16	29	644	13
11	399	17	30	652	13
<b>12</b>	<b>414</b>	<b>18</b>	<b>31</b>	<b>661</b>	<b>13</b>
13	428	17	32	669	14
14	442	16	33	679	15
15	454	16	34	691	17
16	467	17	35	709	23
17	482	19	36	800	182
18	501	20			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 413, 517, 660.

**Table 7.4.3.21**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Writing CRT High School Prompt A**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	500	31	18.5	661	10
0.5	500	31	19	666	9
1	500	31	19.5	671	9
1.5	500	31	20	676	9
2	500	31	<b>20.5</b>	<b>681</b>	<b>9</b>
2.5	500	31	21	686	9
3	500	31	21.5	691	9
3.5	500	31	22	696	9
4	500	31	22.5	702	10
4.5	500	31	23	708	10
5	500	31	23.5	715	10
5.5	500	31	24	721	10
6	500	31	24.5	727	10
6.5	520	18	25	733	9
7	540	11	25.5	738	9
7.5	547	10	26	743	9
8	553	9	26.5	748	8
8.5	558	9	27	752	8
9	563	9	<b>27.5</b>	<b>757</b>	<b>8</b>
9.5	568	9	28	761	8
10	573	9	28.5	765	8
10.5	578	9	29	769	8
11	583	9	29.5	773	8
11.5	589	9	30	777	8
12	594	9	30.5	782	8
12.5	599	9	31	786	8
13	604	9	31.5	790	8
13.5	609	9	32	794	8
<b>14</b>	<b>613</b>	<b>9</b>	32.5	799	8
14.5	618	9	33	803	9
15	622	9	33.5	809	9
15.5	627	9	34	814	10
16	632	9	34.5	823	12
16.5	638	9	35	832	15
17	643	10	35.5	866	39
17.5	649	10	36	900	111
18	655	10			

Note. SEM is the standard error of measurement for the scale score. High school writing scale scores are not on the same vertical scale as grades 3-8.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 610, 678, 754.

**Table 7.4.3.22**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Writing CRT High School Prompt T**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	500	24	18.5	655	10
0.5	500	24	19	662	10
1	500	24	19.5	668	9
1.5	500	24	20	673	9
2	500	24	<b>20.5</b>	<b>678</b>	<b>9</b>
2.5	500	24	21	683	9
3	500	24	21.5	688	9
3.5	500	24	22	693	9
4	500	24	22.5	699	10
4.5	500	24	23	705	10
5	500	24	23.5	712	11
5.5	500	24	24	720	11
6	501	23	24.5	728	11
6.5	513	17	25	735	10
7	526	12	25.5	741	10
7.5	534	11	26	747	9
8	540	10	26.5	752	9
8.5	546	9	<b>27</b>	<b>756</b>	<b>8</b>
9	551	9	27.5	760	8
9.5	556	9	28	765	8
10	561	9	28.5	769	8
10.5	566	9	29	773	8
11	571	9	29.5	777	8
11.5	577	10	30	781	8
12	583	10	30.5	786	8
12.5	589	10	31	790	8
13	595	9	31.5	794	8
13.5	600	9	32	798	8
14	605	9	32.5	803	8
<b>14.5</b>	<b>610</b>	<b>9</b>	33	807	9
15	615	9	33.5	812	9
15.5	620	9	34	817	9
16	625	9	34.5	823	10
16.5	630	9	35	831	12
17	636	10	35.5	844	17
17.5	642	10	36	900	90
18	649	10			

Note. SEM is the standard error of measurement for the scale score. High school writing scale scores are not on the same vertical scale as grades 3-8.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 610, 678, 754.



**Table 7.4.3.23**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Science CRT Grade 4 Form A**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	200	74	28	471	15
1	241	50	29	475	15
2	278	36	30	480	15
3	300	31	31	484	15
4	317	27	32	489	15
5	330	25	33	493	15
6	342	23	34	498	15
7	352	21	<b>35</b>	<b>503</b>	<b>15</b>
8	361	20	36	508	16
9	369	20	37	513	16
10	376	19	38	518	16
11	383	18	39	523	16
12	390	18	40	528	16
13	396	17	41	534	17
14	402	17	42	540	17
15	408	17	43	546	18
16	413	16	<b>44</b>	<b>553</b>	<b>18</b>
17	418	16	45	560	19
18	424	16	46	567	20
19	429	16	47	575	21
20	434	15	48	585	22
21	438	15	49	595	24
22	443	15	50	608	26
23	448	15	51	624	30
24	452	15	52	645	36
25	457	15	53	681	50
<b>26</b>	<b>462</b>	<b>15</b>	54	800	163
27	466	15			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 462, 500, 547.

**Table 7.4.3.24**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Science CRT Grade 4 Form B**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	200	74	28	473	15
1	241	50	29	478	15
2	278	37	30	482	15
3	301	31	31	487	15
4	318	27	32	491	15
5	331	25	33	496	15
6	343	23	<b>34</b>	<b>501</b>	<b>15</b>
7	353	22	35	505	15
8	363	21	36	510	15
9	371	20	37	515	16
10	378	19	38	520	16
11	386	18	39	525	16
12	392	18	40	531	16
13	399	17	41	536	17
14	405	17	42	542	17
15	410	17	<b>43</b>	<b>548</b>	<b>18</b>
16	416	16	44	555	18
17	421	16	45	562	19
18	426	16	46	569	20
19	431	16	47	578	21
20	436	15	48	587	22
21	441	15	49	597	24
22	446	15	50	610	26
23	451	15	51	626	30
24	455	15	52	647	36
25	460	15	53	683	50
<b>26</b>	<b>464</b>	<b>15</b>	54	800	160
27	469	15			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 462, 500, 547.

**Table 7.4.3.25**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Science CRT Grade 8 Form A**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	200	86	<b>30</b>	<b>475</b>	<b>14</b>
1	256	49	31	478	14
2	292	35	32	482	14
3	313	29	33	486	14
4	329	26	34	490	14
5	341	23	35	494	14
6	352	22	36	498	14
7	361	20	<b>37</b>	<b>502</b>	<b>14</b>
8	369	19	38	506	14
9	377	18	39	511	14
10	384	18	40	515	15
11	390	17	41	519	15
12	396	17	42	524	15
13	401	16	43	529	15
14	407	16	<b>44</b>	<b>534</b>	<b>16</b>
15	412	15	45	539	16
16	417	15	46	545	17
17	421	15	47	550	17
18	426	15	48	557	18
19	430	15	49	563	18
20	435	14	50	571	19
21	439	14	51	579	20
22	443	14	52	588	22
23	447	14	53	598	23
24	451	14	54	610	26
25	455	14	55	626	29
26	459	14	56	647	35
27	463	14	57	683	49
28	467	14	58	800	160
29	471	14			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 473, 500, 532.

**Table 7.4.3.26**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Science CRT Grade 8 Form B**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	200	88	<b>30</b>	<b>475</b>	<b>14</b>
1	258	49	31	478	14
2	294	35	32	482	14
3	315	29	33	486	14
4	331	26	34	490	14
5	343	23	35	494	14
6	353	22	36	498	14
7	363	20	<b>37</b>	<b>502</b>	<b>14</b>
8	371	19	38	506	14
9	378	18	39	510	14
10	385	18	40	514	14
11	391	17	41	519	15
12	397	17	42	523	15
13	402	16	43	528	15
14	408	16	<b>44</b>	<b>533</b>	<b>15</b>
15	413	15	45	538	16
16	418	15	46	543	16
17	422	15	47	549	17
18	427	15	48	555	17
19	431	14	49	561	18
20	435	14	50	568	19
21	440	14	51	576	20
22	444	14	52	585	21
23	448	14	53	595	23
24	452	14	54	607	25
25	455	14	55	622	29
26	459	14	56	643	35
27	463	14	57	678	49
28	467	14	58	800	169
29	471	14			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 473, 500, 532.

**Table 7.4.3.27**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Science CRT High School Form A**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	200	68	33	467	14
1	227	53	34	471	14
2	265	38	35	474	14
3	287	32	<b>36</b>	<b>478</b>	<b>14</b>
4	304	28	37	482	14
5	317	25	38	486	14
6	329	23	39	490	14
7	338	22	40	494	14
8	347	21	41	498	15
9	355	20	<b>42</b>	<b>502</b>	<b>15</b>
10	362	19	43	506	15
11	368	18	44	510	15
12	375	18	45	515	15
13	381	17	46	519	15
14	386	17	47	524	16
15	391	16	48	529	16
16	396	16	49	534	16
17	401	16	<b>50</b>	<b>539</b>	<b>17</b>
18	406	16	51	544	17
19	411	15	52	550	17
20	415	15	53	556	18
21	419	15	54	562	19
22	424	15	55	569	19
23	428	15	56	577	20
24	432	15	57	585	21
25	436	14	58	595	23
26	440	14	59	606	25
27	444	14	60	619	27
28	448	14	61	635	31
29	452	14	62	657	38
30	455	14	63	695	53
31	459	14	64	800	141
32	463	14			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 475, 500, 537.

**Table 7.4.3.28**  
**2008 Spring AIMS Raw Score to Scale Score Table**  
**Science CRT High School Form B**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	200	72	33	468	14
1	234	53	34	472	14
2	271	38	<b>35</b>	<b>475</b>	<b>14</b>
3	294	31	36	479	14
4	310	27	37	483	14
5	323	25	38	487	14
6	334	23	39	490	14
7	344	21	40	494	14
8	352	20	41	498	14
9	360	19	<b>42</b>	<b>502</b>	<b>14</b>
10	367	19	43	506	15
11	373	18	44	510	15
12	379	17	45	515	15
13	385	17	46	519	15
14	390	17	47	523	15
15	395	16	48	528	16
16	400	16	49	533	16
17	405	16	<b>50</b>	<b>538</b>	<b>16</b>
18	409	15	51	543	17
19	414	15	52	549	17
20	418	15	53	555	18
21	422	15	54	561	18
22	426	15	55	568	19
23	430	14	56	575	20
24	434	14	57	584	21
25	438	14	58	593	23
26	442	14	59	604	25
27	446	14	60	617	27
28	450	14	61	633	31
29	453	14	62	655	38
30	457	14	63	693	53
31	461	14	64	800	144
32	464	14			

Note. SEM is the standard error of measurement for the scale score.

Note. Cut scores for Approach the Standard, Meets the Standard, and Exceeds the Standard are 475, 500, 537.

**Table 7.4.3.29**  
**2008 Spring AIMS NRT SEM Table**  
**Grade 3**

Raw Score	Reading		Language		Mathematics	
	Scale Score	IRT SEM	Scale Score	IRT SEM	Scale Score	IRT SEM
0	427	150	455	128	385	148
1	427	150	455	128	385	148
2	427	150	455	128	385	148
3	427	150	455	128	385	148
4	427	150	455	128	385	148
5	427	150	552	31	385	148
6	516	61	568	18	481	52
7	545	33	578	14	506	31
8	561	25	586	12	521	24
9	572	21	592	12	532	20
10	582	18	599	11	542	17
11	590	16	605	11	550	16
12	597	15	612	12	557	15
13	603	14	619	12	564	14
14	610	13	627	13	571	14
15	615	12	634	13	578	14
16	621	12	643	13	585	14
17	627	12	652	14	592	14
18	633	12	663	16	600	15
19	640	13	681	22	607	15
20	647	13	730	63	616	15
21	655	14			625	15
22	665	16			635	16
23	678	19			648	18
24	699	28			667	24
25	750	69			740	87

**Table 7.4.3.30**  
**2008 Spring AIMS NRT SEM Table**  
**Grade 4**

Raw Score	Reading		Language		Mathematics	
	Scale Score	IRT SEM	Scale Score	IRT SEM	Scale Score	IRT SEM
0	433	142	465	130	403	161
1	433	142	465	130	403	161
2	433	142	465	130	403	161
3	433	142	465	130	403	161
4	433	142	490	105	403	161
5	465	110	561	34	403	161
6	544	34	579	22	508	56
7	564	25	590	18	536	34
8	576	21	599	16	552	25
9	586	18	608	15	564	21
10	593	15	615	14	574	18
11	600	14	622	14	582	17
12	606	12	629	13	589	16
13	611	12	636	13	596	15
14	616	11	644	14	603	14
15	621	10	652	14	610	14
16	626	10	661	15	616	14
17	630	10	672	17	623	14
18	635	10	686	20	629	13
19	641	11	709	29	636	14
20	647	11	757	66	644	14
21	653	12			653	15
22	662	14			663	17
23	673	17			678	22
24	692	25			704	34
25	780	102			770	90



**Table 7.4.3.31**  
**2008 Spring AIMS NRT SEM Table**  
**Grade 5**

Raw Score	Reading		Language		Mathematics	
	Scale Score	IRT SEM	Scale Score	IRT SEM	Scale Score	IRT SEM
0	475	138	480	150	430	155
1	475	138	480	150	430	155
2	475	138	480	150	430	155
3	475	138	480	150	430	155
4	475	138	480	150	430	155
5	510	103	589	41	430	155
6	571	42	608	24	529	56
7	589	26	619	18	561	31
8	600	19	627	15	577	24
9	609	16	634	13	589	20
10	616	14	640	12	598	17
11	622	13	646	11	605	15
12	628	12	651	11	612	14
13	634	12	656	11	619	13
14	639	11	662	11	625	12
15	644	11	668	11	631	12
16	650	11	674	12	637	12
17	655	12	682	13	643	12
18	661	12	692	15	649	12
19	668	13	707	20	655	12
20	675	14	782	87	662	12
21	684	15			670	13
22	695	18			679	15
23	709	21			693	19
24	734	31			718	32
25	790	76			797	105

**Table 7.4.3.32**  
**2008 Spring AIMS NRT SEM Table**  
**Grade 6**

Raw Score	Reading		Language		Mathematics	
	Scale Score	IRT SEM	Scale Score	IRT SEM	Scale Score	IRT SEM
0	486	120	495	135	477	143
1	486	120	495	135	477	143
2	486	120	495	135	477	143
3	486	120	495	135	477	143
4	486	120	495	135	477	143
5	486	120	590	40	477	143
6	562	44	608	22	544	76
7	582	27	619	16	583	39
8	595	20	626	13	600	28
9	604	17	633	12	613	22
10	613	15	639	11	622	19
11	620	15	644	11	630	17
12	627	14	650	11	637	15
13	633	14	656	11	644	14
14	639	14	662	12	650	13
15	646	14	669	12	655	12
16	652	13	677	13	661	12
17	658	13	686	15	667	12
18	665	13	697	17	673	12
19	672	14	715	23	679	13
20	679	14	808	106	686	13
21	688	16			694	15
22	699	18			704	17
23	713	22			718	20
24	737	31			740	29
25	800	82			820	98

**Table 7.4.3.33**  
**2008 Spring AIMS NRT SEM Table**  
**Grade 7**

Raw Score	Reading		Language		Mathematics	
	Scale Score	IRT SEM	Scale Score	IRT SEM	Scale Score	IRT SEM
0	498	130	502	128	487	146
1	498	130	502	128	487	146
2	498	130	502	128	487	146
3	498	130	502	128	487	146
4	498	130	512	118	487	146
5	498	130	595	35	487	146
6	557	71	611	22	584	49
7	595	34	621	17	608	30
8	612	24	630	14	623	24
9	624	20	637	13	635	21
10	633	17	643	12	644	18
11	640	16	649	12	652	17
12	647	14	655	12	659	15
13	653	13	661	12	666	14
14	659	12	668	13	672	13
15	664	11	675	13	678	13
16	669	11	683	14	684	13
17	674	11	692	16	690	12
18	680	11	705	18	696	12
19	686	11	724	25	702	13
20	692	12	814	103	709	13
21	699	13			717	14
22	708	14			726	16
23	719	17			739	19
24	737	23			758	26
25	810	86			850	107

**Table 7.4.3.34**  
**2008 Spring AIMS NRT SEM Table**  
**Grade 8**

Raw Score	Reading		Language		Mathematics	
	Scale Score	IRT SEM	Scale Score	IRT SEM	Scale Score	IRT SEM
0	507	111	523	115	502	140
1	507	111	523	115	502	140
2	507	111	523	115	502	140
3	507	111	523	115	502	140
4	507	111	523	115	502	140
5	507	111	591	47	502	140
6	541	77	615	25	576	66
7	581	38	628	18	607	37
8	599	27	638	15	624	27
9	612	21	645	13	637	23
10	622	18	653	13	648	21
11	630	16	659	12	658	19
12	638	15	666	13	666	18
13	645	14	673	13	674	17
14	652	14	681	13	682	17
15	659	14	688	13	690	16
16	665	14	696	13	697	15
17	672	14	704	13	704	15
18	679	14	714	14	712	15
19	687	14	729	19	720	15
20	695	15	819	100	728	16
21	704	16			737	16
22	714	17			748	18
23	729	21			763	22
24	753	31			788	32
25	820	89			872	107

## Part 8: Test Results

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### 8.1 Data

Part 8 of this technical report contains information about the results of the 2008 Spring administration of AIMS DPA and AIMS High School. The first section provides information on the CRT scores from the AIMS assessments. The second section provides information on the NRT scores from AIMS DPA. The AERA/APA/NCME standards addressed in Part 8 include: 1.5, 4.3, 4.5, 4.6, 4.7, 6.35, 7.1, 7.10, 13.15, and 13.19. Please note that the corresponding information for the 2007 Fall AIMS administration can be found in Appendix A.

Results presented below are based on population data contained within the final electronic data files. The results presented in this part of the technical report may differ slightly from final testing results presented on the Arizona Department of Education website due to slight differences in the application of exclusion rules. Official final results typically use more detailed school-level information than is used to conduct research analyses. The results in the following tables are presented as evidence of reliability and validity of the AIMS assessments and should not be used for state accountability purposes.

#### 8.1.1 AIMS CRT State Test Results

The AIMS CRT test results for Mathematics, Reading, and Writing are each on a vertical scale for grades 3-8. Development of the vertical scale is described in section 7.2.1 of the 2005 AIMS Technical Report. The AIMS CRT grades 3-8 vertical scale runs from a lowest obtainable scale score (LOSS) of 200 to a highest obtainable scale score (HOSS) of 800. The AIMS high school assessments for Mathematics, Reading, and Writing are each on a separate scale where the LOSS is 500 and the HOSS is 900. The LOSS and HOSS values for each grade/subject can be found in Table 8.1.1.1.

The test results for AIMS Science grade 4, 8, and high school are not on a vertical scale so that scale scores across grades can not be compared. For each grade, the lowest obtainable scale score (LOSS) is 200, and the highest obtainable scale score (HOSS) is 800. The LOSS and HOSS values for each grade can be found in Table 8.1.1.1.

Test results for each grade level and content area CRT test follow in Tables 8.1.1.2 through 8.1.1.9. For each grade, scale score means and standard deviations as well as the percentages of students in each performance level are presented for the state as a whole and disaggregated into various demographic groups. Disaggregated results were produced for the various groups by using demographic data on student answer documents.

In addition to the descriptive statistics presented in Tables 8.1.1.2 through 8.1.1.9, scale score frequency distributions are also presented in Tables 8.1.1.10 through 8.1.1.47. Each grade and content area is presented in a separate table. These tables show the scale score, frequency (Freq), cumulative frequency (Cum Freq), percentage (%), and cumulative percentage (Cum %).

Results for AIMS high school assessments are reported by graduating cohort. Cohort 10 is defined as the group of students that expect to graduate in 2010 and typically includes 10<sup>th</sup> grade students. Cohort 09 is defined as the group of students that expect to graduate in 2009 and typically includes 11<sup>th</sup> grade students. Cohort 08 is defined as the group of students that expect to graduate in 2008 and is typically comprised of seniors.

**Table 8.1.1.1**  
**2008 Spring AIMS LOSS and HOSS Table**

Content	Grade	Loss	Hoss
Reading	3	200	640
	4	220	660
	5	240	675
	6	250	690
	7	260	720
	8	270	800
	HS*	500	900
Mathematics	3	200	650
	4	230	675
	5	255	700
	6	270	725
	7	290	740
	8	300	800
	HS*	500	900
Writing	3	200	650
	4	230	700
	5	255	740
	6	275	760
	7	290	770
	8	300	800
	HS*	500	900
Science	4	200	800
	8	200	800
	HS**	200	800

\*HS Tests are not on the same scale as G3-8 tests. Scale Scores are therefore not comparable between the HS and G3-8 tests. \*\*Science scale scores are not comparable between grades.

**Table 8.1.1.2**  
**2008 Spring AIMS State Test Results**  
**Mathematics CRT Grades 3-8**

	N	Scale Score		% at Performance Level			
		M	SD	FFBS	AS	MS	ES
<b>Grade 3</b>							
Total	83299	450.99	50.65	10	18	49	22
Ethnic Background							
White (Not Hispanic)	35324	468.95	50.13	5	11	50	33
Black or African American	4681	433.95	47.69	17	23	48	12
Hispanic or Latino	36181	436.73	45.10	14	24	50	12
American Indian or Alaskan Native	4445	426.74	42.49	18	29	45	8
Asian or Pacific Islander	2430	479.05	55.02	4	10	44	42
Special Program Membership							
Title 1	11991	434.31	45.20	15	25	48	11
English Learner Program	13179	418.51	38.27	22	33	42	4
Special Education	9040	418.32	50.85	31	26	33	10
<b>Grade 4</b>							
Total	81568	484.41	54.39	11	15	49	25
Ethnic Background							
White (Not Hispanic)	35352	501.73	52.58	6	9	50	35
Black or African American	4783	466.71	53.06	18	18	48	15
Hispanic or Latino	34811	470.40	50.51	15	19	50	16
American Indian or Alaskan Native	4116	458.50	48.36	20	24	46	10
Asian or Pacific Islander	2386	513.47	56.41	5	7	43	45
Special Program Membership							
Title 1	11046	468.31	50.72	16	20	50	15
English Learner Program	11226	444.37	42.57	26	29	40	4
Special Education	9571	443.40	53.48	35	23	33	9
<b>Grade 5</b>							
Total	81303	506.94	55.18	13	18	50	20
Ethnic Background							
White (Not Hispanic)	35436	525.58	54.48	6	12	52	30
Black or African American	4638	487.44	51.20	21	21	46	11
Hispanic or Latino	34749	491.35	49.32	17	23	48	11
American Indian or Alaskan Native	4080	481.29	46.94	23	26	44	7
Asian or Pacific Islander	2299	541.48	60.62	5	9	43	43
Special Program Membership							
Title 1	10461	489.88	49.57	18	24	47	11
English Learner Program	8903	460.18	38.75	36	33	28	2
Special Education	9578	461.81	48.98	43	25	27	6

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.

(table continues)

**Table 8.1.1.2 (continued)**  
**2008 Spring AIMS State Test Results**  
**Mathematics CRT Grades 3-8**

	N	Scale Score		% at Performance Level			
		M	SD	FFBS	AS	MS	ES
<b>Grade 6</b>							
Total	81577	523.28	58.73	17	16	49	18
Ethnic Background							
White (Not Hispanic)	36562	542.54	58.53	9	11	52	28
Black or African American	4619	503.97	52.64	24	20	46	9
Hispanic or Latino	33679	506.00	52.03	23	20	48	10
American Indian or Alaskan Native	4264	494.80	49.07	30	22	43	6
Asian or Pacific Islander	2350	562.09	62.63	6	7	46	41
Special Program Membership							
Title 1	9749	502.33	51.73	25	22	45	9
English Learner Program	7083	468.93	39.64	50	25	24	1
Special Education	9236	468.86	50.22	55	19	22	4
<b>Grade 7</b>							
Total	80807	548.92	55.27	12	17	53	18
Ethnic Background							
White (Not Hispanic)	36593	566.67	54.55	7	11	56	27
Black or African American	4532	530.08	49.90	19	22	50	9
Hispanic or Latino	32913	532.70	49.56	17	22	52	10
American Indian or Alaskan Native	4231	523.23	47.04	21	27	46	6
Asian or Pacific Islander	2388	584.09	59.67	5	7	48	40
Special Program Membership							
Title 1	8994	527.54	48.11	19	24	49	8
English Learner Program	7036	497.86	38.57	39	32	28	1
Special Education	8811	493.55	43.59	48	25	24	2
<b>Grade 8</b>							
Total	80506	557.79	59.48	21	18	49	13
Ethnic Background							
White (Not Hispanic)	36670	577.25	58.93	12	13	55	20
Black or African American	4590	536.17	53.56	31	21	43	5
Hispanic or Latino	32497	539.92	52.48	28	23	43	6
American Indian or Alaskan Native	4373	530.65	49.51	33	25	38	3
Asian or Pacific Islander	2236	597.16	68.56	9	10	49	32
Special Program Membership							
Title 1	8994	535.21	51.25	31	24	40	5
English Learner Program	6607	503.02	40.32	58	24	17	1
Special Education	8450	498.12	45.37	64	18	16	1

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.



**Table 8.1.1.3**  
**2008 Spring AIMS State Test Results**  
**Mathematics CRT High School**

	N	Scale Score		% at Performance Level			
		M	SD	FFBS	AS	MS	ES
<b>Cohort 0</b>							
Total	73940	704.83	42.82	20	12	53	15
Ethnic Background							
White (Not Hispanic)	35451	718.63	42.45	11	8	58	22
Black or African American	4283	690.62	38.77	30	15	48	7
Hispanic or Latino	27811	690.68	36.77	29	15	50	6
American Indian or Alaskan Native	4260	682.64	34.11	35	18	43	4
Asian or Pacific Islander	2043	735.63	50.66	8	7	48	37
Special Program Membership							
Title 1	2250	677.13	30.22	40	20	39	2
English Learner Program	4467	664.55	27.15	61	17	21	1
Special Education	6536	660.38	29.61	67	13	19	1
<b>Cohort 9 (Retest)</b>							
Total	15589	667.91	23.95	49	25	25	1
Ethnic Background							
White (Not Hispanic)	4541	671.64	27.11	44	24	30	1
Black or African American	1305	664.37	23.60	55	22	23	0
Hispanic or Latino	7778	666.51	21.82	51	26	22	0
American Indian or Alaskan Native	1721	665.59	21.57	53	26	21	0
Asian or Pacific Islander	194	681.94	32.09	33	27	36	4
Special Program Membership							
Title 1	890	667.01	22.54	51	25	24	0
English Learner Program	2033	660.28	20.58	63	23	14	0
Special Education	3460	653.21	20.14	77	15	9	0
<b>Cohort 8 (Retest)</b>							
Total	7667	666.25	23.65	52	24	24	0
Ethnic Background							
White (Not Hispanic)	1989	665.66	25.95	54	21	24	1
Black or African American	715	664.22	24.45	57	21	22	0
Hispanic or Latino	3877	666.68	22.09	50	26	24	0
American Indian or Alaskan Native	935	665.70	21.70	53	24	23	0
Asian or Pacific Islander	135	677.51	34.83	41	20	36	3
Special Program Membership							
Title 1	473	666.49	21.64	53	23	23	0
English Learner Program	984	663.43	21.45	59	20	22	0
Special Education	2234	651.78	19.11	79	14	6	0

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**Table 8.1.1.4**  
**2008 Spring AIMS State Test Results**  
**Reading CRT Grades 3-8**

	N	Scale Score		% at Performance Level			
		M	SD	FFBS	AS	MS	ES
<b>Grade 3</b>							
Total	83305	456.44	53.11	8	24	56	13
Ethnic Background							
White (Not Hispanic)	35332	476.28	51.66	4	14	60	22
Black or African American	4681	444.65	50.89	11	28	54	8
Hispanic or Latino	36180	439.91	48.11	11	31	52	6
American Indian or Alaskan Native	4445	432.89	45.18	11	37	48	3
Asian or Pacific Islander	2430	479.36	52.59	3	14	58	24
Special Program Membership							
Title 1	11991	435.95	47.60	12	34	49	5
English Learner Program	13181	415.35	39.66	19	46	35	1
Special Education	9040	414.74	53.37	29	36	30	5
<b>Grade 4</b>							
Total	81589	474.49	50.95	9	21	60	9
Ethnic Background							
White (Not Hispanic)	35368	493.97	49.06	5	12	67	16
Black or African American	4785	462.15	48.08	13	25	57	5
Hispanic or Latino	34814	458.13	46.49	13	28	54	4
American Indian or Alaskan Native	4119	450.02	43.37	15	34	48	2
Asian or Pacific Islander	2384	492.57	48.46	4	13	67	15
Special Program Membership							
Title 1	11046	456.06	46.20	14	30	52	4
English Learner Program	11229	428.80	36.33	26	45	29	0
Special Education	9582	431.78	50.28	35	31	31	3
<b>Grade 5</b>							
Total	81330	491.42	47.25	10	22	60	8
Ethnic Background							
White (Not Hispanic)	35459	509.07	44.79	4	14	68	14
Black or African American	4639	479.05	44.84	14	27	55	4
Hispanic or Latino	34752	476.34	43.64	14	30	53	4
American Indian or Alaskan Native	4081	469.27	40.84	16	35	47	2
Asian or Pacific Islander	2298	512.29	47.58	5	13	66	17
Special Program Membership							
Title 1	10461	474.39	43.81	15	31	50	4
English Learner Program	8895	442.48	32.78	33	46	21	0
Special Education	9584	448.90	44.95	37	34	27	2

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.

(table continues)

**Table 8.1.1.4 (continued)**  
**2008 Spring AIMS State Test Results**  
**Reading CRT Grades 3-8**

	N	Scale Score		% at Performance Level			
		M	SD	FFBS	AS	MS	ES
<b>Grade 6</b>							
Total	81604	499.47	48.78	10	22	61	8
Ethnic Background							
White (Not Hispanic)	36570	517.82	46.89	5	13	69	14
Black or African American	4621	487.72	45.18	13	26	57	4
Hispanic or Latino	33690	482.74	43.82	14	30	53	3
American Indian or Alaskan Native	4268	474.99	41.51	17	35	46	2
Asian or Pacific Islander	2352	522.44	49.78	5	12	66	18
Special Program Membership							
Title 1	9754	480.85	44.20	15	31	51	3
English Learner Program	7085	444.38	32.46	39	45	16	0
Special Education	9248	452.14	44.19	40	33	26	1
<b>Grade 7</b>							
Total	80827	515.76	51.13	9	21	62	8
Ethnic Background							
White (Not Hispanic)	36605	533.83	49.46	4	13	69	13
Black or African American	4531	503.26	48.16	13	25	59	4
Hispanic or Latino	32915	498.58	46.16	13	28	56	3
American Indian or Alaskan Native	4235	493.42	43.08	13	33	51	2
Asian or Pacific Islander	2388	540.64	53.91	5	11	66	19
Special Program Membership							
Title 1	8996	496.79	45.99	14	30	53	3
English Learner Program	7037	460.01	32.89	35	45	19	0
Special Education	8812	464.84	42.51	38	36	25	1
<b>Grade 8</b>							
Total	80537	522.95	56.36	11	22	60	7
Ethnic Background							
White (Not Hispanic)	36675	542.99	54.58	5	14	70	11
Black or African American	4593	508.95	52.78	15	26	56	3
Hispanic or Latino	32512	504.03	50.71	16	30	52	3
American Indian or Alaskan Native	4379	497.06	48.37	18	34	46	2
Asian or Pacific Islander	2236	549.86	58.25	6	12	67	15
Special Program Membership							
Title 1	9003	502.96	50.94	17	31	50	3
English Learner Program	6612	460.71	34.38	43	42	14	0
Special Education	8456	465.60	44.33	44	34	21	1

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**Table 8.1.1.5**  
**2008 Spring AIMS State Test Results**  
**Reading CRT High School**

	N	Scale Score		% at Performance Level			
		M	SD	FFBS	AS	MS	ES
<b>Cohort 0</b>							
Total	75491	703.81	48.43	6	21	66	7
Ethnic Background							
White (Not Hispanic)	36058	722.33	45.21	2	11	75	12
Black or African American	4296	692.62	45.35	8	25	64	3
Hispanic or Latino	28569	684.99	43.71	9	31	58	2
American Indian or Alaskan Native	4413	676.69	40.84	11	36	51	1
Asian or Pacific Islander	2056	724.01	49.75	3	12	70	15
Special Program Membership							
Title 1	2046	672.59	39.46	12	39	48	1
English Learner Program	4565	643.41	29.18	29	56	15	0
Special Education	6744	653.38	39.77	27	45	28	1
<b>Cohort 9 (Retest)</b>							
Total	11779	657.39	34.71	17	52	30	1
Ethnic Background							
White (Not Hispanic)	2828	667.24	42.63	16	43	39	2
Black or African American	921	654.83	35.34	21	49	30	0
Hispanic or Latino	6416	653.80	30.25	18	56	26	0
American Indian or Alaskan Native	1368	653.61	29.60	17	59	24	0
Asian or Pacific Islander	209	668.58	38.92	9	53	35	4
Special Program Membership							
Title 1	619	653.95	30.45	17	56	26	0
English Learner Program	2232	643.47	27.11	26	60	14	0
Special Education	2868	640.21	30.13	33	53	14	0
<b>Cohort 8 (Retest)</b>							
Total	5248	653.05	33.36	20	55	25	0
Ethnic Background							
White (Not Hispanic)	1047	657.85	41.00	21	49	29	1
Black or African American	428	650.14	33.47	23	54	23	0
Hispanic or Latino	2989	651.55	30.41	20	56	24	0
American Indian or Alaskan Native	656	651.48	29.66	18	59	23	0
Asian or Pacific Islander	117	666.77	39.19	12	47	40	1
Special Program Membership							
Title 1	322	652.00	30.41	18	56	26	0
English Learner Program	1227	646.44	27.68	21	63	16	0
Special Education	1605	636.32	27.69	36	54	10	0

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**Table 8.1.1.6**  
**2008 Spring AIMS State Test Results**  
**Writing CRT Grades 3-8**

	N	Scale Score		% at Performance Level			
		M	SD	FFBS	AS	MS	ES
<b>Grade 3</b>							
Total	83184	444.69	73.44	6	18	66	10
Ethnic Background							
White (Not Hispanic)	35303	459.66	67.24	4	13	69	14
Black or African American	4671	432.60	78.77	8	21	63	8
Hispanic or Latino	36114	432.27	74.61	8	22	65	6
American Indian or Alaskan Native	4432	424.18	78.31	9	24	62	5
Asian or Pacific Islander	2425	471.51	72.02	4	8	66	22
Special Program Membership							
Title 1	11981	428.15	73.17	8	24	64	5
English Learner Program	13140	408.32	78.59	12	30	55	2
Special Education	9024	385.95	92.46	22	33	42	3
<b>Grade 4</b>							
Total	81540	475.15	60.08	4	26	67	3
Ethnic Background							
White (Not Hispanic)	35344	487.78	56.00	3	20	72	5
Black or African American	4787	464.68	64.10	6	30	62	2
Hispanic or Latino	34789	464.25	60.24	6	31	62	1
American Indian or Alaskan Native	4122	460.29	60.92	6	33	60	1
Asian or Pacific Islander	2379	494.79	62.71	3	15	74	8
Special Program Membership							
Title 1	11056	462.24	60.28	6	32	61	1
English Learner Program	11214	439.07	64.99	11	45	44	0
Special Education	9562	428.67	72.60	16	47	36	1
<b>Grade 5</b>							
Total	81317	520.01	61.11	3	32	63	2
Ethnic Background							
White (Not Hispanic)	35466	531.78	55.63	2	26	70	3
Black or African American	4639	509.60	67.75	5	35	59	1
Hispanic or Latino	34735	510.13	62.38	4	37	58	1
American Indian or Alaskan Native	4078	502.48	64.34	5	42	52	1
Asian or Pacific Islander	2298	540.89	61.86	2	18	74	5
Special Program Membership							
Title 1	10454	508.14	62.56	4	38	57	1
English Learner Program	8887	475.16	72.69	10	54	35	0
Special Education	9586	467.04	74.69	13	57	30	0

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(table continues)

**Table 8.1.1.6 (continued)**  
**2008 Spring AIMS State Test Results**  
**Writing CRT Grades 3-8**

	N	Scale Score		% at Performance Level			
		M	SD	FFBS	AS	MS	ES
<b>Grade 6</b>							
Total	81529	518.85	67.80	5	23	67	5
Ethnic Background							
White (Not Hispanic)	36535	532.34	62.80	3	19	72	7
Black or African American	4627	511.37	70.15	6	25	65	3
Hispanic or Latino	33650	506.36	68.72	6	28	63	3
American Indian or Alaskan Native	4263	495.40	70.62	8	33	58	1
Asian or Pacific Islander	2347	546.34	68.17	3	12	73	12
Special Program Membership							
Title 1	9750	505.41	70.88	7	28	63	3
English Learner Program	7061	457.39	79.37	19	45	36	0
Special Education	9214	454.72	79.51	20	46	34	1
<b>Grade 7</b>							
Total	80856	539.79	64.81	3	32	63	2
Ethnic Background							
White (Not Hispanic)	36625	554.01	58.61	1	25	70	3
Black or African American	4525	530.40	69.44	4	35	59	2
Hispanic or Latino	32925	526.33	66.20	4	39	56	1
American Indian or Alaskan Native	4244	517.66	66.87	4	44	51	1
Asian or Pacific Islander	2383	566.34	66.35	2	17	74	7
Special Program Membership							
Title 1	9006	524.13	67.33	4	41	54	1
English Learner Program	7029	475.38	74.43	13	60	27	0
Special Education	8809	474.08	74.53	13	62	25	0
<b>Grade 8</b>							
Total	80569	554.86	64.99	2	21	74	2
Ethnic Background							
White (Not Hispanic)	36678	572.83	58.82	1	14	82	3
Black or African American	4590	543.67	69.38	4	23	72	1
Hispanic or Latino	32523	536.99	64.68	3	29	67	1
American Indian or Alaskan Native	4399	535.62	64.69	3	30	66	1
Asian or Pacific Islander	2238	582.30	66.91	2	9	83	6
Special Program Membership							
Title 1	9015	536.27	64.11	3	30	67	1
English Learner Program	6600	482.32	69.47	11	55	33	0
Special Education	8446	488.97	72.96	11	52	37	0

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**Table 8.1.1.7**  
**2008 Spring AIMS State Test Results**  
**Writing CRT High School**

	N	Scale Score		% at Performance Level			
		M	SD	FFBS	AS	MS	ES
<b>Cohort 0</b>							
Total	75256	696.39	46.28	4	27	61	7
Ethnic Background							
White (Not Hispanic)	36019	709.04	41.72	2	19	68	11
Black or African American	4286	689.96	48.19	6	30	59	5
Hispanic or Latino	28437	683.01	46.13	7	36	55	3
American Indian or Alaskan Native	4379	676.58	45.17	8	42	48	2
Asian or Pacific Islander	2054	716.99	49.46	3	15	62	20
Special Program Membership							
Title 1	2030	675.35	44.89	8	42	49	2
English Learner Program	4524	638.74	48.32	24	58	18	0
Special Education	6686	644.46	48.67	22	55	22	0
<b>Cohort 9 (Retest)</b>							
Total	10213	651.94	46.34	17	57	25	1
Ethnic Background							
White (Not Hispanic)	2942	661.55	48.09	14	51	34	2
Black or African American	749	645.95	53.62	21	53	26	0
Hispanic or Latino	5214	647.48	43.54	18	61	21	0
American Indian or Alaskan Native	1096	650.19	43.37	16	61	22	0
Asian or Pacific Islander	175	658.10	54.32	14	53	31	3
Special Program Membership							
Title 1	489	650.82	42.13	15	60	24	0
English Learner Program	1870	629.95	45.15	28	61	10	0
Special Education	2696	632.18	43.71	28	62	10	0
<b>Cohort 8 (Retest)</b>							
Total	4385	645.69	47.14	20	58	21	1
Ethnic Background							
White (Not Hispanic)	1129	653.04	49.04	19	53	27	1
Black or African American	319	642.85	51.19	24	53	23	0
Hispanic or Latino	2331	642.31	44.76	20	62	18	0
American Indian or Alaskan Native	509	644.11	47.02	21	58	21	0
Asian or Pacific Islander	83	659.72	55.28	12	51	36	1
Special Program Membership							
Title 1	220	643.58	45.31	21	60	19	0
English Learner Program	967	630.17	46.10	28	61	10	0
Special Education	1488	629.95	43.38	29	62	9	0

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes. High school results are not on the same scale as grade 3-8 results.

**Table 8.1.1.8**  
**2008 Spring AIMS State Test Results**  
**Science CRT Grades 4 and 8**

	N	Scale Score		% at Performance Level			
		M	SD	FFBS	AS	MS	ES
Grade 4 : Form A							
Total	39608	501.65	50.13	21	27	35	17
Ethnic Background							
White (Not Hispanic)	16983	522.71	47.59	10	19	42	28
Black or African American	2232	487.36	47.24	28	31	31	10
Hispanic or Latino	16616	484.09	44.69	31	33	30	7
American Indian or Alaskan Native	1949	476.94	42.32	36	35	25	4
Asian or Pacific Islander	1127	521.71	50.94	12	20	39	29
Grade 4 : Form B							
Total	38989	502.58	50.26	22	24	34	20
Ethnic Background							
White (Not Hispanic)	16658	524.81	46.78	10	17	40	33
Black or African American	2286	486.99	47.59	31	27	31	11
Hispanic or Latino	16274	483.88	44.65	32	31	29	8
American Indian or Alaskan Native	1904	475.69	41.93	39	31	24	5
Asian or Pacific Islander	1173	525.06	51.19	11	17	37	34
Grade 8 : Form A							
Total	39221	500.86	50.14	30	20	22	28
Ethnic Background							
White (Not Hispanic)	17829	521.19	47.46	16	16	25	43
Black or African American	2206	486.63	45.73	39	22	22	17
Hispanic or Latino	15661	481.79	44.41	43	23	20	14
American Indian or Alaskan Native	2128	475.74	41.75	49	24	17	10
Asian or Pacific Islander	1064	527.65	51.33	15	14	22	49
Grade 8 : Form B							
Total	38742	501.03	49.98	31	20	21	28
Ethnic Background							
White (Not Hispanic)	17570	521.20	48.87	17	16	24	44
Black or African American	2196	485.43	44.60	41	23	20	17
Hispanic or Latino	15501	482.43	42.67	43	24	19	13
American Indian or Alaskan Native	2028	474.69	39.49	51	25	16	9
Asian or Pacific Islander	1126	524.42	53.88	17	16	21	46

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.



**Table 8.1.1.9**  
**2008 Spring AIMS State Test Results**  
**Science CRT High School**

	N	Scale Score		% at Performance Level			
		M	SD	FFBS	AS	MS	ES
Cohort 10 (Grade 10) : Form A							
Total	22618	477.12	49.79	50	18	20	12
Ethnic Background							
White (Not Hispanic)	10044	494.80	50.23	34	19	28	19
Black or African American	1417	464.63	45.15	62	17	16	6
Hispanic or Latino	9040	461.80	43.93	64	17	14	5
American Indian or Alaskan Native	1448	456.51	40.54	69	17	10	3
Asian or Pacific Islander	582	495.60	49.70	36	19	24	21
Cohort 11 (Grade 9) : Form A							
Total	10570	498.09	53.60	34	17	26	24
Ethnic Background							
White (Not Hispanic)	6543	510.75	51.13	24	16	29	30
Black or African American	408	476.19	47.78	49	17	24	10
Hispanic or Latino	2761	472.82	48.50	53	19	18	10
American Indian or Alaskan Native	412	458.57	42.42	69	14	12	4
Asian or Pacific Islander	411	528.37	49.99	15	13	27	45
Cohort 10 (Grade 10) : Form B							
Total	22106	478.27	50.22	48	20	19	13
Ethnic Background							
White (Not Hispanic)	9900	495.47	51.29	33	20	26	21
Black or African American	1383	466.01	46.48	59	19	15	7
Hispanic or Latino	8760	463.08	43.79	61	19	14	6
American Indian or Alaskan Native	1382	457.14	40.59	67	19	10	3
Asian or Pacific Islander	583	496.40	49.80	35	20	22	23
Cohort 11 (Grade 9) : Form B							
Total	10422	499.34	54.27	33	18	24	25
Ethnic Background							
White (Not Hispanic)	6366	512.13	52.03	23	18	27	32
Black or African American	387	479.06	50.87	47	19	20	14
Hispanic or Latino	2839	474.32	48.04	52	19	18	11
American Indian or Alaskan Native	346	458.64	42.64	67	17	12	5
Asian or Pacific Islander	441	529.12	52.16	12	14	29	45

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.

**Table 8.1.1.10**  
**2008 Spring AIMS Frequency Distribution**  
**Mathematics CRT Grade 3**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	200	.	.	.	.	37	402	1222	1.47	15429	18.52
1	200	.	.	.	.	38	405	1273	1.53	16702	20.05
2	225	.	.	.	.	39	408	1333	1.6	18035	21.65
3	245	1	0	1	0	40	411	1400	1.68	19435	23.33
4	259	.	.	.	.	41	413	1416	1.7	20851	25.03
5	270	.	.	.	.	42	416	1481	1.78	22332	26.81
6	280	1	0	2	0	43	419	1585	1.9	23917	28.71
7	288	.	.	.	.	<b>44</b>	<b>422</b>	<b>1634</b>	<b>1.96</b>	<b>25551</b>	<b>30.67</b>
8	295	1	0	3	0	45	425	1616	1.94	27167	32.61
9	302	3	0	6	0.01	46	428	1778	2.13	28945	34.75
10	308	6	0.01	12	0.01	47	431	1766	2.12	30711	36.87
11	313	5	0.01	17	0.02	48	434	1846	2.22	32557	39.08
12	318	8	0.01	25	0.03	49	437	1893	2.27	34450	41.36
13	323	26	0.03	51	0.06	50	440	1899	2.28	36349	43.64
14	328	34	0.04	85	0.1	51	443	2107	2.53	38456	46.17
15	332	75	0.09	160	0.19	52	446	2096	2.52	40552	48.68
16	336	96	0.12	256	0.31	53	450	2180	2.62	42732	51.3
17	340	138	0.17	394	0.47	54	453	2161	2.59	44893	53.89
18	344	173	0.21	567	0.68	55	457	2296	2.76	47189	56.65
19	347	244	0.29	811	0.97	56	460	2347	2.82	49536	59.47
20	351	288	0.35	1099	1.32	57	464	2545	3.06	52081	62.52
21	354	358	0.43	1457	1.75	58	468	2563	3.08	54644	65.6
22	358	425	0.51	1882	2.26	59	473	2621	3.15	57265	68.75
23	361	470	0.56	2352	2.82	60	477	2621	3.15	59886	71.89
24	364	557	0.67	2909	3.49	61	482	2626	3.15	62512	75.05
25	367	634	0.76	3543	4.25	62	487	2585	3.1	65097	78.15
26	370	683	0.82	4226	5.07	<b>63</b>	<b>492</b>	<b>2619</b>	<b>3.14</b>	<b>67716</b>	<b>81.29</b>
27	374	739	0.89	4965	5.96	64	498	2606	3.13	70322	84.42
28	376	834	1	5799	6.96	65	505	2516	3.02	72838	87.44
29	379	920	1.1	6719	8.07	66	512	2421	2.91	75259	90.35
30	382	949	1.14	7668	9.21	67	521	2239	2.69	77498	93.04
31	385	948	1.14	8616	10.34	68	531	1927	2.31	79425	95.35
<b>32</b>	<b>388</b>	<b>1032</b>	<b>1.24</b>	<b>9648</b>	<b>11.58</b>	69	544	1635	1.96	81060	97.31
33	391	1082	1.3	10730	12.88	70	562	1244	1.49	82304	98.81
34	394	1106	1.33	11836	14.21	71	591	717	0.86	83021	99.67
35	397	1146	1.38	12982	15.58	72	650	278	0.33	83299	100
36	399	1225	1.47	14207	17.06						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.11**  
**2008 Spring AIMS Frequency Distribution**  
**Mathematics CRT Grade 4**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	230	.	.	.	.	36	425	960	1.18	12609	15.46
1	230	.	.	.	.	37	428	988	1.21	13597	16.67
2	251	.	.	.	.	38	431	1075	1.32	14672	17.99
3	270	.	.	.	.	39	434	1119	1.37	15791	19.36
4	284	.	.	.	.	40	437	1197	1.47	16988	20.83
5	295	.	.	.	.	41	440	1246	1.53	18234	22.35
6	305	.	.	.	.	42	443	1319	1.62	19553	23.97
7	313	.	.	.	.	43	446	1383	1.7	20936	25.67
8	320	3	0	3	0	<b>44</b>	<b>449</b>	<b>1362</b>	<b>1.67</b>	<b>22298</b>	<b>27.34</b>
9	326	1	0	4	0	45	452	1503	1.84	23801	29.18
10	332	8	0.01	12	0.01	46	456	1534	1.88	25335	31.06
11	338	16	0.02	28	0.03	47	459	1674	2.05	27009	33.11
12	343	22	0.03	50	0.06	48	462	1695	2.08	28704	35.19
13	347	48	0.06	98	0.12	49	465	1807	2.22	30511	37.41
14	352	52	0.06	150	0.18	50	469	1921	2.36	32432	39.76
15	356	95	0.12	245	0.3	51	473	2041	2.5	34473	42.26
16	360	157	0.19	402	0.49	52	476	2106	2.58	36579	44.84
17	364	196	0.24	598	0.73	53	480	2259	2.77	38838	47.61
18	368	230	0.28	828	1.02	54	484	2357	2.89	41195	50.5
19	372	290	0.36	1118	1.37	55	488	2525	3.1	43720	53.6
20	375	347	0.43	1465	1.8	56	492	2616	3.21	46336	56.81
21	379	430	0.53	1895	2.32	57	497	2628	3.22	48964	60.03
22	382	433	0.53	2328	2.85	58	502	2860	3.51	51824	63.53
23	386	535	0.66	2863	3.51	59	507	3043	3.73	54867	67.27
24	389	570	0.7	3433	4.21	60	512	3164	3.88	58031	71.14
25	392	559	0.69	3992	4.89	61	518	3213	3.94	61244	75.08
26	395	577	0.71	4569	5.6	<b>62</b>	<b>524</b>	<b>3278</b>	<b>4.02</b>	<b>64522</b>	<b>79.1</b>
27	398	630	0.77	5199	6.37	63	532	3363	4.12	67885	83.23
28	401	702	0.86	5901	7.23	64	540	3172	3.89	71057	87.11
29	404	643	0.79	6544	8.02	65	549	2989	3.66	74046	90.78
30	407	737	0.9	7281	8.93	66	560	2724	3.34	76770	94.12
31	410	806	0.99	8087	9.91	67	574	2078	2.55	78848	96.67
32	413	852	1.04	8939	10.96	68	593	1562	1.91	80410	98.58
<b>33</b>	<b>416</b>	<b>873</b>	<b>1.07</b>	<b>9812</b>	<b>12.03</b>	69	626	843	1.03	81253	99.61
34	419	852	1.04	10664	13.07	70	675	315	0.39	81568	100
35	422	985	1.21	11649	14.28						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.12**  
**2008 Spring AIMS Frequency Distribution**  
**Mathematics CRT Grade 5**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	255	.	.	.	.	35	460	1193	1.47	18116	22.28
1	272	.	.	.	.	36	463	1250	1.54	19366	23.82
2	302	.	.	.	.	37	466	1336	1.64	20702	25.46
3	319	.	.	.	.	38	469	1319	1.62	22021	27.09
4	332	.	.	.	.	39	472	1360	1.67	23381	28.76
5	342	.	.	.	.	40	474	1429	1.76	24810	30.52
6	351	.	.	.	.	<b>41</b>	<b>477</b>	<b>1467</b>	<b>1.8</b>	<b>26277</b>	<b>32.32</b>
7	358	1	0	1	0	42	480	1539	1.89	27816	34.21
8	365	6	0.01	7	0.01	43	483	1524	1.87	29340	36.09
9	371	9	0.01	16	0.02	44	486	1591	1.96	30931	38.04
10	376	18	0.02	34	0.04	45	489	1683	2.07	32614	40.11
11	381	41	0.05	75	0.09	46	492	1800	2.21	34414	42.33
12	386	67	0.08	142	0.17	47	495	1799	2.21	36213	44.54
13	390	124	0.15	266	0.33	48	498	1789	2.2	38002	46.74
14	395	170	0.21	436	0.54	49	502	1893	2.33	39895	49.07
15	399	224	0.28	660	0.81	50	505	1996	2.46	41891	51.52
16	403	340	0.42	1000	1.23	51	509	1930	2.37	43821	53.9
17	406	406	0.5	1406	1.73	52	512	2044	2.51	45865	56.41
18	410	495	0.61	1901	2.34	53	516	2158	2.65	48023	59.07
19	413	610	0.75	2511	3.09	54	520	2218	2.73	50241	61.79
20	417	694	0.85	3205	3.94	55	524	2312	2.84	52553	64.64
21	420	769	0.95	3974	4.89	56	528	2369	2.91	54922	67.55
22	423	806	0.99	4780	5.88	57	533	2444	3.01	57366	70.56
23	426	863	1.06	5643	6.94	58	538	2485	3.06	59851	73.61
24	429	847	1.04	6490	7.98	59	543	2621	3.22	62472	76.84
25	432	917	1.13	7407	9.11	60	549	2642	3.25	65114	80.09
26	435	895	1.1	8302	10.21	<b>61</b>	<b>556</b>	<b>2622</b>	<b>3.22</b>	<b>67736</b>	<b>83.31</b>
27	438	947	1.16	9249	11.38	62	563	2556	3.14	70292	86.46
28	441	981	1.21	10230	12.58	63	572	2568	3.16	72860	89.62
<b>29</b>	<b>444</b>	<b>1044</b>	<b>1.28</b>	<b>11274</b>	<b>13.87</b>	64	582	2441	3	75301	92.62
30	447	997	1.23	12271	15.09	65	595	2282	2.81	77583	95.42
31	449	1080	1.33	13351	16.42	66	612	1866	2.3	79449	97.72
32	452	1153	1.42	14504	17.84	67	642	1315	1.62	80764	99.34
33	455	1201	1.48	15705	19.32	68	700	539	0.66	81303	100
34	458	1218	1.5	16923	20.81						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.13**  
**2008 Spring AIMS Frequency Distribution**  
**Mathematics CRT Grade 6**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	270	1	0	1	0	35	474	1185	1.45	18267	22.39
1	270	.	.	.	.	36	477	1290	1.58	19557	23.97
2	298	.	.	.	.	37	480	1347	1.65	20904	25.62
3	318	.	.	.	.	38	483	1272	1.56	22176	27.18
4	333	.	.	.	.	39	487	1408	1.73	23584	28.91
5	344	.	.	.	.	40	490	1404	1.72	24988	30.63
6	354	2	0	3	0	41	493	1520	1.86	26508	32.49
7	362	2	0	5	0.01	<b>42</b>	<b>496</b>	<b>1596</b>	<b>1.96</b>	<b>28104</b>	<b>34.45</b>
8	369	4	0	9	0.01	43	499	1633	2	29737	36.45
9	376	14	0.02	23	0.03	44	502	1600	1.96	31337	38.41
10	382	31	0.04	54	0.07	45	506	1678	2.06	33015	40.47
11	388	51	0.06	105	0.13	46	509	1765	2.16	34780	42.63
12	393	88	0.11	193	0.24	47	512	1823	2.23	36603	44.87
13	398	125	0.15	318	0.39	48	516	1900	2.33	38503	47.2
14	402	226	0.28	544	0.67	49	519	2023	2.48	40526	49.68
15	407	259	0.32	803	0.98	50	523	2031	2.49	42557	52.17
16	411	371	0.45	1174	1.44	51	527	2083	2.55	44640	54.72
17	415	465	0.57	1639	2.01	52	531	2248	2.76	46888	57.48
18	419	543	0.67	2182	2.67	53	535	2191	2.69	49079	60.16
19	423	625	0.77	2807	3.44	54	539	2379	2.92	51458	63.08
20	426	697	0.85	3504	4.3	55	544	2421	2.97	53879	66.05
21	430	734	0.9	4238	5.2	56	549	2391	2.93	56270	68.98
22	434	763	0.94	5001	6.13	57	554	2535	3.11	58805	72.09
23	437	814	1	5815	7.13	58	559	2578	3.16	61383	75.25
24	440	823	1.01	6638	8.14	59	565	2547	3.12	63930	78.37
25	444	907	1.11	7545	9.25	60	572	2576	3.16	66506	81.53
26	447	919	1.13	8464	10.38	<b>61</b>	<b>579</b>	<b>2546</b>	<b>3.12</b>	<b>69052</b>	<b>84.65</b>
27	450	998	1.22	9462	11.6	62	587	2556	3.13	71608	87.78
28	453	999	1.22	10461	12.82	63	596	2537	3.11	74145	90.89
29	456	1024	1.26	11485	14.08	64	607	2375	2.91	76520	93.8
30	459	1034	1.27	12519	15.35	65	621	1943	2.38	78463	96.18
31	462	1114	1.37	13633	16.71	66	641	1595	1.96	80058	98.14
<b>32</b>	<b>465</b>	<b>1061</b>	<b>1.3</b>	<b>14694</b>	<b>18.01</b>	67	673	1039	1.27	81097	99.41
33	468	1179	1.45	15873	19.46	68	725	480	0.59	81577	100
34	471	1209	1.48	17082	20.94						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.14**  
**2008 Spring AIMS Frequency Distribution**  
**Mathematics CRT Grade 7**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	290	.	.	.	.	35	500	1216	1.5	16458	20.37
1	302	.	.	.	.	36	503	1271	1.57	17729	21.94
2	333	.	.	.	.	37	506	1363	1.69	19092	23.63
3	352	.	.	.	.	38	509	1315	1.63	20407	25.25
4	365	.	.	.	.	39	512	1439	1.78	21846	27.03
5	376	.	.	.	.	40	515	1527	1.89	23373	28.92
6	385	1	0	1	0	<b>41</b>	<b>518</b>	<b>1551</b>	<b>1.92</b>	<b>24924</b>	<b>30.84</b>
7	393	2	0	3	0	42	521	1576	1.95	26500	32.79
8	400	2	0	5	0.01	43	524	1654	2.05	28154	34.84
9	406	10	0.01	15	0.02	44	527	1708	2.11	29862	36.95
10	411	24	0.03	39	0.05	45	530	1751	2.17	31613	39.12
11	417	41	0.05	80	0.1	46	534	1855	2.3	33468	41.42
12	422	68	0.08	148	0.18	47	537	1884	2.33	35352	43.75
13	426	101	0.12	249	0.31	48	540	2041	2.53	37393	46.27
14	431	164	0.2	413	0.51	49	544	2129	2.63	39522	48.91
15	435	216	0.27	629	0.78	50	548	2132	2.64	41654	51.55
16	439	330	0.41	959	1.19	51	551	2174	2.69	43828	54.24
17	443	394	0.49	1353	1.67	52	555	2296	2.84	46124	57.08
18	446	467	0.58	1820	2.25	53	559	2358	2.92	48482	60
19	450	536	0.66	2356	2.92	54	564	2385	2.95	50867	62.95
20	454	563	0.7	2919	3.61	55	568	2479	3.07	53346	66.02
21	457	652	0.81	3571	4.42	56	573	2469	3.06	55815	69.07
22	460	741	0.92	4312	5.34	57	578	2534	3.14	58349	72.21
23	464	741	0.92	5053	6.25	58	583	2564	3.17	60913	75.38
24	467	737	0.91	5790	7.17	59	589	2653	3.28	63566	78.66
25	470	773	0.96	6563	8.12	60	595	2660	3.29	66226	81.96
26	473	821	1.02	7384	9.14	<b>61</b>	<b>602</b>	<b>2526</b>	<b>3.13</b>	<b>68752</b>	<b>85.08</b>
27	476	889	1.1	8273	10.24	62	610	2622	3.24	71374	88.33
28	479	824	1.02	9097	11.26	63	619	2492	3.08	73866	91.41
29	482	890	1.1	9987	12.36	64	630	2229	2.76	76095	94.17
<b>30</b>	<b>485</b>	<b>1014</b>	<b>1.25</b>	<b>11001</b>	<b>13.61</b>	65	643	1888	2.34	77983	96.51
31	488	933	1.15	11934	14.77	66	662	1443	1.79	79426	98.29
32	491	1045	1.29	12979	16.06	67	693	959	1.19	80385	99.48
33	494	1058	1.31	14037	17.37	68	740	422	0.52	80807	100
34	497	1205	1.49	15242	18.86						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.15**  
**2008 Spring AIMS Frequency Distribution**  
**Mathematics CRT Grade 8**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	300	.	.	.	.	34	515	1550	1.93	20831	25.88
1	300	.	.	.	.	35	518	1586	1.97	22417	27.85
2	330	.	.	.	.	36	522	1623	2.02	24040	29.86
3	351	.	.	.	.	37	525	1713	2.13	25753	31.99
4	366	1	0	1	0	38	529	1703	2.12	27456	34.1
5	378	1	0	2	0	39	532	1800	2.24	29256	36.34
6	388	4	0	6	0.01	40	536	1819	2.26	31075	38.6
7	396	9	0.01	15	0.02	<b>41</b>	<b>539</b>	<b>1904</b>	<b>2.37</b>	<b>32979</b>	<b>40.96</b>
8	404	11	0.01	26	0.03	42	543	1946	2.42	34925	43.38
9	411	32	0.04	58	0.07	43	547	1947	2.42	36872	45.8
10	418	43	0.05	101	0.13	44	550	1982	2.46	38854	48.26
11	423	70	0.09	171	0.21	45	554	1993	2.48	40847	50.74
12	429	129	0.16	300	0.37	46	558	2069	2.57	42916	53.31
13	434	184	0.23	484	0.6	47	562	2101	2.61	45017	55.92
14	439	263	0.33	747	0.93	48	567	2213	2.75	47230	58.67
15	444	348	0.43	1095	1.36	49	571	2179	2.71	49409	61.37
16	448	465	0.58	1560	1.94	50	575	2250	2.79	51659	64.17
17	453	527	0.65	2087	2.59	51	580	2276	2.83	53935	67
18	457	650	0.81	2737	3.4	52	585	2363	2.94	56298	69.93
19	461	718	0.89	3455	4.29	53	590	2363	2.94	58661	72.87
20	465	782	0.97	4237	5.26	54	596	2395	2.97	61056	75.84
21	469	823	1.02	5060	6.29	55	601	2352	2.92	63408	78.76
22	473	853	1.06	5913	7.34	56	607	2348	2.92	65756	81.68
23	476	989	1.23	6902	8.57	57	614	2251	2.8	68007	84.47
24	480	993	1.23	7895	9.81	58	621	2222	2.76	70229	87.23
25	484	1047	1.3	8942	11.11	<b>59</b>	<b>629</b>	<b>2045</b>	<b>2.54</b>	<b>72274</b>	<b>89.77</b>
26	487	1140	1.42	10082	12.52	60	638	1959	2.43	74233	92.21
27	491	1169	1.45	11251	13.98	61	648	1779	2.21	76012	94.42
28	494	1223	1.52	12474	15.49	62	661	1507	1.87	77519	96.29
29	498	1296	1.61	13770	17.1	63	676	1257	1.56	78776	97.85
30	501	1378	1.71	15148	18.82	64	697	923	1.15	79699	99
31	504	1356	1.68	16504	20.5	65	732	575	0.71	80274	99.71
<b>32</b>	<b>508</b>	<b>1369</b>	<b>1.7</b>	<b>17873</b>	<b>22.2</b>	66	800	232	0.29	80506	100
33	511	1408	1.75	19281	23.95						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.16**  
**2008 Spring AIMS Frequency Distribution**  
**Mathematics CRT High School Cohort 0 (Grade 10)**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	500	.	.	.	.	43	672	1047	1.42	18100	24.48
1	505	.	.	.	.	44	674	1042	1.41	19142	25.89
2	529	.	.	.	.	45	676	1103	1.49	20245	27.38
3	544	.	.	.	.	46	677	1153	1.56	21398	28.94
4	555	.	.	.	.	47	679	1104	1.49	22502	30.43
5	563	.	.	.	.	48	681	1151	1.56	23653	31.99
6	570	.	.	.	.	<b>49</b>	<b>683</b>	<b>1189</b>	<b>1.61</b>	<b>24842</b>	<b>33.6</b>
7	577	.	.	.	.	50	685	1248	1.69	26090	35.29
8	582	.	.	.	.	51	687	1249	1.69	27339	36.98
9	587	2	0	2	0	52	689	1181	1.6	28520	38.57
10	591	1	0	3	0	53	691	1227	1.66	29747	40.23
11	595	5	0.01	8	0.01	54	693	1351	1.83	31098	42.06
12	599	3	0	11	0.01	55	695	1374	1.86	32472	43.92
13	603	15	0.02	26	0.04	56	697	1350	1.83	33822	45.74
14	606	18	0.02	44	0.06	57	699	1421	1.92	35243	47.67
15	610	45	0.06	89	0.12	58	701	1428	1.93	36671	49.6
16	613	44	0.06	133	0.18	59	703	1380	1.87	38051	51.46
17	615	71	0.1	204	0.28	60	705	1507	2.04	39558	53.5
18	618	130	0.18	334	0.45	61	708	1447	1.96	41005	55.46
19	621	149	0.2	483	0.65	62	710	1431	1.94	42436	57.39
20	624	228	0.31	711	0.96	63	712	1485	2.01	43921	59.4
21	626	292	0.39	1003	1.36	64	714	1553	2.1	45474	61.5
22	629	350	0.47	1353	1.83	65	717	1516	2.05	46990	63.55
23	631	422	0.57	1775	2.4	66	719	1592	2.15	48582	65.71
24	633	499	0.67	2274	3.08	67	722	1708	2.31	50290	68.02
25	636	557	0.75	2831	3.83	68	725	1682	2.27	51972	70.29
26	638	601	0.81	3432	4.64	69	728	1615	2.18	53587	72.48
27	640	684	0.93	4116	5.57	70	731	1559	2.11	55146	74.58
28	642	691	0.93	4807	6.5	71	734	1612	2.18	56758	76.76
29	644	705	0.95	5512	7.45	72	737	1593	2.15	58351	78.92
30	646	764	1.03	6276	8.49	73	740	1627	2.2	59978	81.12
31	649	754	1.02	7030	9.51	74	744	1635	2.21	61613	83.33
32	651	804	1.09	7834	10.6	75	748	1557	2.11	63170	85.44
33	653	749	1.01	8583	11.61	<b>76</b>	<b>752</b>	<b>1626</b>	<b>2.2</b>	<b>64796</b>	<b>87.64</b>
34	655	807	1.09	9390	12.7	77	757	1568	2.12	66364	89.76
35	656	896	1.21	10286	13.91	78	762	1483	2.01	67847	91.76
36	658	882	1.19	11168	15.1	79	768	1391	1.88	69238	93.64
37	660	921	1.25	12089	16.35	80	775	1344	1.82	70582	95.46
38	662	940	1.27	13029	17.62	81	783	1153	1.56	71735	97.02
39	664	948	1.28	13977	18.9	82	794	909	1.23	72644	98.25
40	666	987	1.33	14964	20.24	83	809	674	0.91	73318	99.16
<b>41</b>	<b>668</b>	<b>1043</b>	<b>1.41</b>	<b>16007</b>	<b>21.65</b>	84	833	416	0.56	73734	99.72
42	670	1046	1.41	17053	23.06	85	900	204	0.28	73938	100

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, students attending state hospital schools, and students who met expectations in a previous administration are not included in this summary.



**Table 8.1.1.17**  
**2008 Spring AIMS Frequency Distribution**  
**Mathematics CRT High School Cohort 9 (Grade 11)**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	500	.	.	.	.	43	672	497	3.19	9184	58.92
1	505	.	.	.	.	44	674	472	3.03	9656	61.95
2	529	.	.	.	.	45	676	478	3.07	10134	65.02
3	544	1	0.01	1	0.01	46	677	493	3.16	10627	68.18
4	555	.	.	.	.	47	679	501	3.21	11128	71.39
5	563	.	.	.	.	48	681	490	3.14	11618	74.54
6	570	2	0.01	3	0.02	<b>49</b>	<b>683</b>	<b>423</b>	<b>2.71</b>	<b>12041</b>	<b>77.25</b>
7	577	.	.	.	.	50	685	389	2.5	12430	79.75
8	582	.	.	.	.	51	687	397	2.55	12827	82.29
9	587	.	.	.	.	52	689	368	2.36	13195	84.65
10	591	1	0.01	4	0.03	53	691	298	1.91	13493	86.57
11	595	.	.	.	.	54	693	253	1.62	13746	88.19
12	599	.	.	.	.	55	695	250	1.6	13996	89.79
13	603	4	0.03	8	0.05	56	697	225	1.44	14221	91.24
14	606	6	0.04	14	0.09	57	699	204	1.31	14425	92.55
15	610	18	0.12	32	0.21	58	701	162	1.04	14587	93.58
16	613	24	0.15	56	0.36	59	703	134	0.86	14721	94.44
17	615	33	0.21	89	0.57	60	705	108	0.69	14829	95.14
18	618	74	0.47	163	1.05	61	708	90	0.58	14919	95.71
19	621	71	0.46	234	1.5	62	710	95	0.61	15014	96.32
20	624	99	0.64	333	2.14	63	712	71	0.46	15085	96.78
21	626	139	0.89	472	3.03	64	714	66	0.42	15151	97.2
22	629	203	1.3	675	4.33	65	717	55	0.35	15206	97.56
23	631	199	1.28	874	5.61	66	719	48	0.31	15254	97.86
24	633	241	1.55	1115	7.15	67	722	45	0.29	15299	98.15
25	636	291	1.87	1406	9.02	68	725	36	0.23	15335	98.38
26	638	299	1.92	1705	10.94	69	728	31	0.2	15366	98.58
27	640	322	2.07	2027	13	70	731	31	0.2	15397	98.78
28	642	345	2.21	2372	15.22	71	734	23	0.15	15420	98.93
29	644	394	2.53	2766	17.75	72	737	18	0.12	15438	99.04
30	646	384	2.46	3150	20.21	73	740	26	0.17	15464	99.21
31	649	359	2.3	3509	22.51	74	744	13	0.08	15477	99.29
32	651	425	2.73	3934	25.24	<b>76</b>	<b>752</b>	<b>21</b>	<b>0.13</b>	<b>15516</b>	<b>99.54</b>
33	653	434	2.78	4368	28.02	77	757	14	0.09	15530	99.63
34	655	424	2.72	4792	30.74	78	762	10	0.06	15540	99.7
35	656	453	2.91	5245	33.65	79	768	16	0.1	15556	99.8
36	658	453	2.91	5698	36.56	80	775	11	0.07	15567	99.87
37	660	452	2.9	6150	39.46	81	783	8	0.05	15575	99.92
38	662	489	3.14	6639	42.59	82	794	6	0.04	15581	99.96
39	664	527	3.38	7166	45.97	83	809	5	0.03	15586	99.99
40	666	493	3.16	7659	49.14	84	833	1	0.01	15587	100
<b>41</b>	<b>668</b>	<b>521</b>	<b>3.34</b>	<b>8180</b>	<b>52.48</b>	85	900	.	.	.	.
42	670	507	3.25	8687	55.73	.	.	.	.	.	.

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, students attending state hospital schools, and students who met expectations in a previous administration are not included in this summary.

**Table 8.1.1.18**  
**2008 Spring AIMS Frequency Distribution**  
**Mathematics CRT High School Cohort 8 (Grade 12)**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	500	.	.	.	.	43	672	235	3.07	4690	61.17
1	505	.	.	.	.	44	674	233	3.04	4923	64.21
2	529	.	.	.	.	45	676	230	3	5153	67.21
3	544	.	.	.	.	46	677	219	2.86	5372	70.07
4	555	.	.	.	.	47	679	214	2.79	5586	72.86
5	563	.	.	.	.	48	681	212	2.77	5798	75.62
6	570	1	0.01	1	0.01	<b>49</b>	<b>683</b>	<b>197</b>	<b>2.57</b>	<b>5995</b>	<b>78.19</b>
7	577	.	.	.	.	50	685	219	2.86	6214	81.05
8	582	1	0.01	2	0.03	51	687	158	2.06	6372	83.11
9	587	.	.	.	.	52	689	159	2.07	6531	85.18
10	591	.	.	.	.	53	691	147	1.92	6678	87.1
11	595	.	.	.	.	54	693	144	1.88	6822	88.98
12	599	4	0.05	6	0.08	55	695	108	1.41	6930	90.39
13	603	.	.	.	.	56	697	98	1.28	7028	91.67
14	606	9	0.12	15	0.2	57	699	97	1.27	7125	92.93
15	610	6	0.08	21	0.27	58	701	74	0.97	7199	93.9
16	613	13	0.17	34	0.44	59	703	72	0.94	7271	94.84
17	615	18	0.23	52	0.68	60	705	59	0.77	7330	95.6
18	618	43	0.56	95	1.24	61	708	46	0.6	7376	96.2
19	621	50	0.65	145	1.89	62	710	49	0.64	7425	96.84
20	624	62	0.81	207	2.7	63	712	37	0.48	7462	97.33
21	626	83	1.08	290	3.78	64	714	34	0.44	7496	97.77
22	629	97	1.27	387	5.05	65	717	18	0.23	7514	98
23	631	111	1.45	498	6.5	66	719	20	0.26	7534	98.27
24	633	138	1.8	636	8.3	67	722	18	0.23	7552	98.5
25	636	152	1.98	788	10.28	68	725	19	0.25	7571	98.75
26	638	163	2.13	951	12.4	69	728	16	0.21	7587	98.96
27	640	173	2.26	1124	14.66	70	731	11	0.14	7598	99.1
28	642	199	2.6	1323	17.26	71	734	9	0.12	7607	99.22
29	644	207	2.7	1530	19.96	72	737	8	0.1	7615	99.32
30	646	201	2.62	1731	22.58	73	740	15	0.2	7630	99.52
31	649	213	2.78	1944	25.36	74	744	13	0.17	7643	99.69
32	651	214	2.79	2158	28.15	75	748	5	0.07	7648	99.75
33	653	223	2.91	2381	31.06	<b>76</b>	<b>752</b>	<b>4</b>	<b>0.05</b>	<b>7652</b>	<b>99.8</b>
34	655	232	3.03	2613	34.08	77	757	4	0.05	7656	99.86
35	656	224	2.92	2837	37	78	762	3	0.04	7659	99.9
36	658	219	2.86	3056	39.86	79	768	5	0.07	7664	99.96
37	660	237	3.09	3293	42.95	80	775	.	.	.	.
38	662	247	3.22	3540	46.17	81	783	.	.	.	.
39	664	235	3.07	3775	49.24	82	794	2	0.03	7666	99.99
40	666	211	2.75	3986	51.99	83	809	1	0.01	7667	100
<b>41</b>	<b>668</b>	<b>219</b>	<b>2.86</b>	<b>4205</b>	<b>54.85</b>	84	833	.	.	.	.
42	670	250	3.26	4455	58.11	85	900	.	.	.	.

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, students attending state hospital schools, and students who met expectations in a previous administration are not included in this summary.

**Table 8.1.1.19**  
**2008 Spring AIMS Frequency Distribution**  
**Reading CRT Grade 3**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	200	.	.	.	.	28	417	1602	1.92	20671	24.81
1	230	.	.	.	.	29	421	1726	2.07	22397	26.89
2	261	1	0	1	0	30	424	1741	2.09	24138	28.98
3	279	2	0	3	0	31	428	1922	2.31	26060	31.28
4	293	.	.	.	.	<b>32</b>	<b>432</b>	<b>1926</b>	<b>2.31</b>	<b>27986</b>	<b>33.59</b>
5	304	8	0.01	11	0.01	33	436	2050	2.46	30036	36.06
6	313	18	0.02	29	0.03	34	439	2181	2.62	32217	38.67
7	321	38	0.05	67	0.08	35	443	2334	2.8	34551	41.48
8	329	89	0.11	156	0.19	36	447	2363	2.84	36914	44.31
9	335	191	0.23	347	0.42	37	451	2483	2.98	39397	47.29
10	341	296	0.36	643	0.77	38	455	2476	2.97	41873	50.26
11	347	390	0.47	1033	1.24	39	460	2776	3.33	44649	53.6
12	352	592	0.71	1625	1.95	40	464	2727	3.27	47376	56.87
13	357	755	0.91	2380	2.86	41	469	2904	3.49	50280	60.36
14	362	857	1.03	3237	3.89	42	474	3024	3.63	53304	63.99
15	367	983	1.18	4220	5.07	43	479	3079	3.7	56383	67.68
16	371	1033	1.24	5253	6.31	44	484	3238	3.89	59621	71.57
17	375	1110	1.33	6363	7.64	45	490	3180	3.82	62801	75.39
<b>18</b>	<b>379</b>	<b>1117</b>	<b>1.34</b>	<b>7480</b>	<b>8.98</b>	46	496	3197	3.84	65998	79.22
19	384	1091	1.31	8571	10.29	47	503	3257	3.91	69255	83.13
20	387	1169	1.4	9740	11.69	48	511	3135	3.76	72390	86.9
21	391	1125	1.35	10865	13.04	<b>49</b>	<b>520</b>	<b>2988</b>	<b>3.59</b>	<b>75378</b>	<b>90.48</b>
22	395	1220	1.46	12085	14.51	50	531	2762	3.32	78140	93.8
23	399	1279	1.54	13364	16.04	51	544	2362	2.84	80502	96.64
24	403	1350	1.62	14714	17.66	52	562	1633	1.96	82135	98.6
25	406	1406	1.69	16120	19.35	53	592	898	1.08	83033	99.67
26	410	1420	1.7	17540	21.06	54	640	272	0.33	83305	100
27	414	1529	1.84	19069	22.89						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.20**  
**2008 Spring AIMS Frequency Distribution**  
**Reading CRT Grade 4**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	220	1	0	1	0	28	427	1243	1.52	16041	19.66
1	264	.	.	.	.	29	430	1189	1.46	17230	21.12
2	291	.	.	.	.	30	434	1395	1.71	18625	22.83
3	307	1	0	2	0	31	437	1402	1.72	20027	24.55
4	319	4	0	6	0.01	32	440	1518	1.86	21545	26.41
5	329	5	0.01	11	0.01	33	444	1624	1.99	23169	28.4
6	337	14	0.02	25	0.03	34	447	1653	2.03	24822	30.42
7	344	42	0.05	67	0.08	<b>35</b>	<b>451</b>	<b>1752</b>	<b>2.15</b>	<b>26574</b>	<b>32.57</b>
8	350	92	0.11	159	0.19	36	454	1917	2.35	28491	34.92
9	356	166	0.2	325	0.4	37	458	2056	2.52	30547	37.44
10	361	264	0.32	589	0.72	38	462	2210	2.71	32757	40.15
11	366	351	0.43	940	1.15	39	466	2320	2.84	35077	42.99
12	371	494	0.61	1434	1.76	40	470	2504	3.07	37581	46.06
13	375	598	0.73	2032	2.49	41	474	2726	3.34	40307	49.4
14	379	708	0.87	2740	3.36	42	478	2802	3.43	43109	52.84
15	383	769	0.94	3509	4.3	43	483	3201	3.92	46310	56.76
16	387	812	1	4321	5.3	44	488	3427	4.2	49737	60.96
17	391	836	1.02	5157	6.32	45	493	3596	4.41	53333	65.37
18	394	829	1.02	5986	7.34	46	499	3912	4.79	57245	70.16
19	398	865	1.06	6851	8.4	47	506	4214	5.16	61459	75.33
20	401	853	1.05	7704	9.44	48	513	4282	5.25	65741	80.58
<b>21</b>	<b>405</b>	<b>922</b>	<b>1.13</b>	<b>8626</b>	<b>10.57</b>	49	522	4159	5.1	69900	85.67
22	408	942	1.15	9568	11.73	50	531	3961	4.85	73861	90.53
23	411	929	1.14	10497	12.87	<b>51</b>	<b>544</b>	<b>3405</b>	<b>4.17</b>	<b>77266</b>	<b>94.7</b>
24	414	1012	1.24	11509	14.11	52	561	2477	3.04	79743	97.74
25	418	1041	1.28	12550	15.38	53	589	1402	1.72	81145	99.46
26	421	1140	1.4	13690	16.78	54	660	444	0.54	81589	100
27	424	1108	1.36	14798	18.14						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.21**  
**2008 Spring AIMS Frequency Distribution**  
**Reading CRT Grade 5**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	240	.	.	.	.	28	454	1491	1.83	19277	23.7
1	280	.	.	.	.	29	457	1549	1.9	20826	25.61
2	309	.	.	.	.	30	461	1589	1.95	22415	27.56
3	327	1	0	1	0	31	464	1747	2.15	24162	29.71
4	340	3	0	4	0	32	467	1794	2.21	25956	31.91
5	350	7	0.01	11	0.01	<b>33</b>	<b>471</b>	<b>1920</b>	<b>2.36</b>	<b>27876</b>	<b>34.28</b>
6	359	8	0.01	19	0.02	34	474	1839	2.26	29715	36.54
7	366	34	0.04	53	0.07	35	478	2082	2.56	31797	39.1
8	373	65	0.08	118	0.15	36	481	2146	2.64	33943	41.73
9	379	123	0.15	241	0.3	37	485	2346	2.88	36289	44.62
10	385	224	0.28	465	0.57	38	489	2453	3.02	38742	47.64
11	390	349	0.43	814	1	39	493	2641	3.25	41383	50.88
12	395	453	0.56	1267	1.56	40	497	2925	3.6	44308	54.48
13	399	654	0.8	1921	2.36	41	501	2962	3.64	47270	58.12
14	404	731	0.9	2652	3.26	42	505	3079	3.79	50349	61.91
15	408	885	1.09	3537	4.35	43	510	3347	4.12	53696	66.02
16	412	961	1.18	4498	5.53	44	515	3330	4.09	57026	70.12
17	416	989	1.22	5487	6.75	45	521	3570	4.39	60596	74.51
18	420	1129	1.39	6616	8.13	46	527	3674	4.52	64270	79.02
19	423	1113	1.37	7729	9.5	47	533	3609	4.44	67879	83.46
<b>20</b>	<b>427</b>	<b>1181</b>	<b>1.45</b>	<b>8910</b>	<b>10.96</b>	48	540	3425	4.21	71304	87.67
21	430	1145	1.41	10055	12.36	49	549	3171	3.9	74475	91.57
22	434	1148	1.41	11203	13.77	<b>50</b>	<b>559</b>	<b>2673</b>	<b>3.29</b>	<b>77148</b>	<b>94.86</b>
23	437	1224	1.5	12427	15.28	51	571	2028	2.49	79176	97.35
24	441	1231	1.51	13658	16.79	52	589	1357	1.67	80533	99.02
25	444	1306	1.61	14964	18.4	53	618	632	0.78	81165	99.8
26	447	1426	1.75	16390	20.15	54	675	165	0.2	81330	100
27	451	1396	1.72	17786	21.87						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.22**  
**2008 Spring AIMS Frequency Distribution**  
**Reading CRT Grade 6**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	250	.	.	.	.	28	460	1601	1.96	18408	22.56
1	279	1	0	1	0	29	463	1670	2.05	20078	24.6
2	309	.	.	.	.	30	467	1782	2.18	21860	26.79
3	327	.	.	.	.	31	471	1849	2.27	23709	29.05
4	340	2	0	3	0	32	474	1885	2.31	25594	31.36
5	351	5	0.01	8	0.01	<b>33</b>	<b>478</b>	<b>2062</b>	<b>2.53</b>	<b>27656</b>	<b>33.89</b>
6	360	18	0.02	26	0.03	34	482	2222	2.72	29878	36.61
7	367	37	0.05	63	0.08	35	485	2278	2.79	32156	39.4
8	374	69	0.08	132	0.16	36	489	2442	2.99	34598	42.4
9	381	114	0.14	246	0.3	37	493	2584	3.17	37182	45.56
10	387	206	0.25	452	0.55	38	497	2750	3.37	39932	48.93
11	392	346	0.42	798	0.98	39	502	2877	3.53	42809	52.46
12	397	404	0.5	1202	1.47	40	506	3009	3.69	45818	56.15
13	402	557	0.68	1759	2.16	41	510	3113	3.81	48931	59.96
14	407	653	0.8	2412	2.96	42	515	3189	3.91	52120	63.87
15	411	716	0.88	3128	3.83	43	520	3271	4.01	55391	67.88
16	415	806	0.99	3934	4.82	44	525	3440	4.22	58831	72.09
17	419	926	1.13	4860	5.96	45	531	3429	4.2	62260	76.3
18	423	934	1.14	5794	7.1	46	537	3318	4.07	65578	80.36
19	427	963	1.18	6757	8.28	47	544	3438	4.21	69016	84.57
20	431	1066	1.31	7823	9.59	48	552	3188	3.91	72204	88.48
<b>21</b>	<b>435</b>	<b>1062</b>	<b>1.3</b>	<b>8885</b>	<b>10.89</b>	49	561	2775	3.4	74979	91.88
22	439	1238	1.52	10123	12.41	<b>50</b>	<b>571</b>	<b>2486</b>	<b>3.05</b>	<b>77465</b>	<b>94.93</b>
23	442	1159	1.42	11282	13.83	51	584	1928	2.36	79393	97.29
24	446	1240	1.52	12522	15.34	52	602	1338	1.64	80731	98.93
25	449	1344	1.65	13866	16.99	53	631	692	0.85	81423	99.78
26	453	1457	1.79	15323	18.78	54	690	181	0.22	81604	100
27	456	1484	1.82	16807	20.6						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.23**  
**2008 Spring AIMS Frequency Distribution**  
**Reading CRT Grade 7**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	260	.	.	.	.	28	476	1533	1.9	19039	23.56
1	289	.	.	.	.	29	479	1677	2.07	20716	25.63
2	320	2	0	2	0	30	483	1675	2.07	22391	27.7
3	339	.	.	.	.	31	486	1737	2.15	24128	29.85
4	353	.	.	.	.	<b>32</b>	<b>490</b>	<b>1921</b>	<b>2.38</b>	<b>26049</b>	<b>32.23</b>
5	364	4	0	6	0.01	33	494	1999	2.47	28048	34.7
6	373	11	0.01	17	0.02	34	498	2128	2.63	30176	37.33
7	381	23	0.03	40	0.05	35	501	2269	2.81	32445	40.14
8	389	48	0.06	88	0.11	36	505	2414	2.99	34859	43.13
9	395	91	0.11	179	0.22	37	509	2491	3.08	37350	46.21
10	401	193	0.24	372	0.46	38	514	2518	3.12	39868	49.33
11	407	272	0.34	644	0.8	39	518	2756	3.41	42624	52.73
12	412	434	0.54	1078	1.33	40	522	2858	3.54	45482	56.27
13	417	569	0.7	1647	2.04	41	527	3073	3.8	48555	60.07
14	421	691	0.85	2338	2.89	42	532	3131	3.87	51686	63.95
15	426	833	1.03	3171	3.92	43	537	3172	3.92	54858	67.87
16	430	920	1.14	4091	5.06	44	543	3384	4.19	58242	72.06
17	434	988	1.22	5079	6.28	45	549	3350	4.14	61592	76.2
18	438	1044	1.29	6123	7.58	46	555	3442	4.26	65034	80.46
19	442	1140	1.41	7263	8.99	47	563	3278	4.06	68312	84.52
<b>20</b>	<b>446</b>	<b>1189</b>	<b>1.47</b>	<b>8452</b>	<b>10.46</b>	48	571	3212	3.97	71524	88.49
21	450	1135	1.4	9587	11.86	49	580	2728	3.38	74252	91.87
22	454	1212	1.5	10799	13.36	<b>50</b>	<b>591</b>	<b>2476</b>	<b>3.06</b>	<b>76728</b>	<b>94.93</b>
23	457	1283	1.59	12082	14.95	51	605	1927	2.38	78655	97.31
24	461	1312	1.62	13394	16.57	52	624	1326	1.64	79981	98.95
25	465	1402	1.73	14796	18.31	53	655	627	0.78	80608	99.73
26	468	1350	1.67	16146	19.98	54	720	219	0.27	80827	100
27	472	1360	1.68	17506	21.66						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.24**  
**2008 Spring AIMS Frequency Distribution**  
**Reading CRT Grade 8**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	270	.	.	.	.	28	482	1713	2.13	20792	25.82
1	270	.	.	.	.	29	487	1807	2.24	22599	28.06
2	305	.	.	.	.	30	491	1973	2.45	24572	30.51
3	326	.	.	.	.	31	495	2066	2.57	26638	33.08
4	342	3	0	3	0	<b>32</b>	<b>499</b>	<b>2053</b>	<b>2.55</b>	<b>28691</b>	<b>35.62</b>
5	355	6	0.01	9	0.01	33	503	2143	2.66	30834	38.29
6	366	17	0.02	26	0.03	34	508	2347	2.91	33181	41.2
7	375	26	0.03	52	0.06	35	512	2392	2.97	35573	44.17
8	383	53	0.07	105	0.13	36	516	2463	3.06	38036	47.23
9	390	115	0.14	220	0.27	37	521	2659	3.3	40695	50.53
10	397	183	0.23	403	0.5	38	526	2696	3.35	43391	53.88
11	404	302	0.37	705	0.88	39	531	2788	3.46	46179	57.34
12	410	415	0.52	1120	1.39	40	536	2807	3.49	48986	60.82
13	415	587	0.73	1707	2.12	41	541	2810	3.49	51796	64.31
14	421	711	0.88	2418	3	42	547	3014	3.74	54810	68.06
15	426	892	1.11	3310	4.11	43	552	3085	3.83	57895	71.89
16	431	954	1.18	4264	5.29	44	559	2950	3.66	60845	75.55
17	436	1026	1.27	5290	6.57	45	565	3060	3.8	63905	79.35
18	440	1102	1.37	6392	7.94	46	573	3046	3.78	66951	83.13
19	445	1136	1.41	7528	9.35	47	581	2990	3.71	69941	86.84
20	449	1252	1.55	8780	10.9	48	590	2709	3.36	72650	90.21
<b>21</b>	<b>453</b>	<b>1300</b>	<b>1.61</b>	<b>10080</b>	<b>12.52</b>	49	600	2556	3.17	75206	93.38
22	458	1319	1.64	11399	14.15	<b>50</b>	<b>613</b>	<b>2087</b>	<b>2.59</b>	<b>77293</b>	<b>95.97</b>
23	462	1452	1.8	12851	15.96	51	629	1622	2.01	78915	97.99
24	466	1496	1.86	14347	17.81	52	650	1040	1.29	79955	99.28
25	470	1461	1.81	15808	19.63	53	686	457	0.57	80412	99.84
26	474	1611	2	17419	21.63	54	800	125	0.16	80537	100
27	478	1660	2.06	19079	23.69						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.



**Table 8.1.1.25**  
**2008 Spring AIMS Frequency Distribution**  
**Reading CRT High School Cohort 0 (Grade 10)**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	500	.	.	.	.	28	671	1722	2.28	20042	26.55
1	500	.	.	.	.	<b>29</b>	<b>675</b>	<b>1790</b>	<b>2.37</b>	<b>21832</b>	<b>28.92</b>
2	511	4	0.01	4	0.01	30	678	1925	2.55	23757	31.47
3	530	3	0	7	0.01	31	682	2003	2.65	25760	34.12
4	544	1	0	8	0.01	32	686	2089	2.77	27849	36.89
5	555	12	0.02	20	0.03	33	690	2193	2.9	30042	39.8
6	565	18	0.02	38	0.05	34	694	2348	3.11	32390	42.91
7	573	46	0.06	84	0.11	35	698	2324	3.08	34714	45.98
8	580	77	0.1	161	0.21	36	702	2444	3.24	37158	49.22
9	587	128	0.17	289	0.38	37	706	2548	3.38	39706	52.6
10	593	220	0.29	509	0.67	38	710	2578	3.41	42284	56.01
11	599	298	0.39	807	1.07	39	715	2773	3.67	45057	59.69
12	604	476	0.63	1283	1.7	40	719	2767	3.67	47824	63.35
13	609	602	0.8	1885	2.5	41	724	2850	3.78	50674	67.13
14	614	712	0.94	2597	3.44	42	729	2900	3.84	53574	70.97
15	619	854	1.13	3451	4.57	43	735	2876	3.81	56450	74.78
16	623	924	1.22	4375	5.8	44	740	2912	3.86	59362	78.63
<b>17</b>	<b>628</b>	<b>1082</b>	<b>1.43</b>	<b>5457</b>	<b>7.23</b>	45	746	2854	3.78	62216	82.42
18	632	1037	1.37	6494	8.6	46	753	2843	3.77	65059	86.18
19	636	1128	1.49	7622	10.1	47	760	2589	3.43	67648	89.61
20	640	1104	1.46	8726	11.56	48	768	2420	3.21	70068	92.82
21	644	1140	1.51	9866	13.07	<b>49</b>	<b>778</b>	<b>1979</b>	<b>2.62</b>	<b>72047</b>	<b>95.44</b>
22	648	1224	1.62	11090	14.69	50	789	1542	2.04	73589	97.48
23	652	1340	1.78	12430	16.47	51	802	1021	1.35	74610	98.83
24	656	1394	1.85	13824	18.31	52	821	575	0.76	75185	99.59
25	660	1432	1.9	15256	20.21	53	853	262	0.35	75447	99.94
26	663	1482	1.96	16738	22.17	54	900	44	0.06	75491	100
27	667	1582	2.1	18320	24.27						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, students attending state hospital schools, and students who met expectations in a previous administration are not included in this summary.

**Table 8.1.1.26**  
**2008 Spring AIMS Frequency Distribution**  
**Reading CRT High School Cohort 9 (Grade 11)**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	500	2	0.02	2	0.02	28	671	529	4.49	8206	69.67
1	500	2	0.02	4	0.03	<b>29</b>	<b>675</b>	<b>470</b>	<b>3.99</b>	<b>8676</b>	<b>73.66</b>
2	511	2	0.02	6	0.05	30	678	435	3.69	9111	77.35
3	530	1	0.01	7	0.06	31	682	419	3.56	9530	80.91
4	544	2	0.02	9	0.08	32	686	368	3.12	9898	84.03
5	555	3	0.03	12	0.1	33	690	310	2.63	10208	86.66
6	565	4	0.03	16	0.14	34	694	251	2.13	10459	88.79
7	573	22	0.19	38	0.32	35	698	225	1.91	10684	90.7
8	580	36	0.31	74	0.63	36	702	182	1.55	10866	92.25
9	587	72	0.61	146	1.24	37	706	171	1.45	11037	93.7
10	593	109	0.93	255	2.16	38	710	120	1.02	11157	94.72
11	599	175	1.49	430	3.65	39	715	95	0.81	11252	95.53
12	604	227	1.93	657	5.58	40	719	88	0.75	11340	96.27
13	609	285	2.42	942	8	41	724	64	0.54	11404	96.82
14	614	328	2.78	1270	10.78	42	729	50	0.42	11454	97.24
15	619	365	3.1	1635	13.88	43	735	49	0.42	11503	97.66
16	623	419	3.56	2054	17.44	44	740	38	0.32	11541	97.98
<b>17</b>	<b>628</b>	<b>452</b>	<b>3.84</b>	<b>2506</b>	<b>21.28</b>	45	746	43	0.37	11584	98.34
18	632	474	4.02	2980	25.3	46	753	40	0.34	11624	98.68
19	636	476	4.04	3456	29.34	47	760	38	0.32	11662	99.01
20	640	533	4.53	3989	33.87	48	768	39	0.33	11701	99.34
21	644	488	4.14	4477	38.01	<b>49</b>	<b>778</b>	<b>30</b>	<b>0.25</b>	<b>11731</b>	<b>99.59</b>
22	648	545	4.63	5022	42.64	50	789	25	0.21	11756	99.8
23	652	550	4.67	5572	47.3	51	802	14	0.12	11770	99.92
24	656	540	4.58	6112	51.89	52	821	6	0.05	11776	99.97
25	660	552	4.69	6664	56.58	53	853	2	0.02	11778	99.99
26	663	524	4.45	7188	61.02	54	900	1	0.01	11779	100
27	667	489	4.15	7677	65.18						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, students attending state hospital schools, and students who met expectations in a previous administration are not included in this summary.

**Table 8.1.1.27**  
**2008 Spring AIMS Frequency Distribution**  
**Reading CRT High School Cohort 8 (Grade 12)**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	500	.	.	.	.	28	671	232	4.42	3917	74.64
1	500	.	.	.	.	<b>29</b>	<b>675</b>	<b>199</b>	<b>3.79</b>	<b>4116</b>	<b>78.43</b>
2	511	1	0.02	1	0.02	30	678	193	3.68	4309	82.11
3	530	2	0.04	3	0.06	31	682	160	3.05	4469	85.16
4	544	3	0.06	6	0.11	32	686	122	2.32	4591	87.48
5	555	1	0.02	7	0.13	33	690	109	2.08	4700	89.56
6	565	8	0.15	15	0.29	34	694	88	1.68	4788	91.23
7	573	15	0.29	30	0.57	35	698	83	1.58	4871	92.82
8	580	21	0.4	51	0.97	36	702	57	1.09	4928	93.9
9	587	37	0.71	88	1.68	37	706	64	1.22	4992	95.12
10	593	52	0.99	140	2.67	38	710	50	0.95	5042	96.07
11	599	85	1.62	225	4.29	39	715	31	0.59	5073	96.67
12	604	111	2.12	336	6.4	40	719	27	0.51	5100	97.18
13	609	136	2.59	472	8.99	41	724	25	0.48	5125	97.66
14	614	177	3.37	649	12.37	42	729	15	0.29	5140	97.94
15	619	177	3.37	826	15.74	43	735	12	0.23	5152	98.17
16	623	216	4.12	1042	19.86	44	740	19	0.36	5171	98.53
<b>17</b>	<b>628</b>	<b>238</b>	<b>4.54</b>	<b>1280</b>	<b>24.39</b>	45	746	16	0.3	5187	98.84
18	632	229	4.36	1509	28.75	46	753	12	0.23	5199	99.07
19	636	264	5.03	1773	33.78	47	760	14	0.27	5213	99.33
20	640	249	4.74	2022	38.53	48	768	14	0.27	5227	99.6
21	644	256	4.88	2278	43.41	<b>49</b>	<b>778</b>	<b>13</b>	<b>0.25</b>	<b>5240</b>	<b>99.85</b>
22	648	263	5.01	2541	48.42	50	789	4	0.08	5244	99.92
23	652	237	4.52	2778	52.93	51	802	1	0.02	5245	99.94
24	656	245	4.67	3023	57.6	52	821	1	0.02	5246	99.96
25	660	249	4.74	3272	62.35	53	853	1	0.02	5247	99.98
26	663	212	4.04	3484	66.39	54	900	1	0.02	5248	100
27	667	201	3.83	3685	70.22						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, students attending state hospital schools, and students who met expectations in a previous administration are not included in this summary.

**Table 8.1.1.28**  
**2008 Spring AIMS Frequency Distribution**  
**Writing CRT Grade 3**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	200	2054	2.47	2054	2.47	19	438	2499	3	36754	44.18
1	200	.	.	.	.	20	450	2487	2.99	39241	47.17
2	200	.	.	.	.	21	461	10997	13.22	50238	60.39
3	200	.	.	.	.	22	472	2461	2.96	52699	63.35
4	200	.	.	.	.	23	485	3454	4.15	56153	67.5
5	200	.	.	.	.	24	498	16589	19.94	72742	87.45
6	200	1330	1.6	3384	4.07	25	510	1166	1.4	73908	88.85
7	299	114	0.14	3498	4.21	26	521	921	1.11	74829	89.96
8	315	118	0.14	3616	4.35	<b>27</b>	<b>530</b>	<b>4906</b>	<b>5.9</b>	<b>79735</b>	<b>95.85</b>
9	327	1485	1.79	5101	6.13	28	539	446	0.54	80181	96.39
<b>10</b>	<b>338</b>	<b>211</b>	<b>0.25</b>	<b>5312</b>	<b>6.39</b>	29	547	345	0.41	80526	96.8
11	349	244	0.29	5556	6.68	30	555	1709	2.05	82235	98.86
12	359	4136	4.97	9692	11.65	31	563	112	0.13	82347	98.99
13	370	811	0.97	10503	12.63	32	572	103	0.12	82450	99.12
14	380	1015	1.22	11518	13.85	33	581	576	0.69	83026	99.81
15	390	5449	6.55	16967	20.4	34	593	17	0.02	83043	99.83
16	401	1100	1.32	18067	21.72	35	611	19	0.02	83062	99.85
17	413	1779	2.14	19846	23.86	36	650	122	0.15	83184	100
<b>18</b>	<b>426</b>	<b>14409</b>	<b>17.32</b>	<b>34255</b>	<b>41.18</b>						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.29**  
**2008 Spring AIMS Frequency Distribution**  
**Writing CRT Grade 4**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	230	1206	1.48	1206	1.48	19	483	4433	5.44	48178	59.09
1	230	.	.	.	.	20	494	3633	4.46	51811	63.54
2	230	.	.	.	.	21	504	11196	13.73	63007	77.27
3	230	.	.	.	.	22	515	2250	2.76	65257	80.03
4	230	.	.	.	.	23	528	2410	2.96	67667	82.99
5	230	.	.	.	.	24	541	10056	12.33	77723	95.32
6	230	641	0.79	1847	2.27	25	554	732	0.9	78455	96.22
7	334	148	0.18	1995	2.45	26	566	486	0.6	78941	96.81
8	350	255	0.31	2250	2.76	<b>27</b>	<b>576</b>	<b>1630</b>	<b>2</b>	<b>80571</b>	<b>98.81</b>
9	363	1363	1.67	3613	4.43	28	585	196	0.24	80767	99.05
<b>10</b>	<b>374</b>	<b>351</b>	<b>0.43</b>	<b>3964</b>	<b>4.86</b>	29	595	145	0.18	80912	99.23
11	387	421	0.52	4385	5.38	30	604	479	0.59	81391	99.82
12	401	3989	4.89	8374	10.27	31	614	32	0.04	81423	99.86
13	414	1453	1.78	9827	12.05	32	623	18	0.02	81441	99.88
14	426	1548	1.9	11375	13.95	33	634	76	0.09	81517	99.97
15	437	8297	10.18	19672	24.13	34	646	2	0	81519	99.97
16	447	2364	2.9	22036	27.02	35	663	5	0.01	81524	99.98
17	459	2613	3.2	24649	30.23	36	700	16	0.02	81540	100
<b>18</b>	<b>471</b>	<b>19096</b>	<b>23.42</b>	<b>43745</b>	<b>53.65</b>						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.30**  
**2008 Spring AIMS Frequency Distribution**  
**Writing CRT Grade 5**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	255	971	1.19	971	1.19	<b>19</b>	<b>504</b>	<b>3208</b>	<b>3.95</b>	<b>31684</b>	<b>38.96</b>
1	255	.	.	.	.	20	516	3468	4.26	35152	43.23
2	255	.	.	.	.	21	528	12374	15.22	47526	58.45
3	255	.	.	.	.	22	540	2527	3.11	50053	61.55
4	255	.	.	.	.	23	553	3627	4.46	53680	66.01
5	255	.	.	.	.	24	567	20506	25.22	74186	91.23
6	255	433	0.53	1404	1.73	25	579	1036	1.27	75222	92.5
7	345	93	0.11	1497	1.84	26	591	876	1.08	76098	93.58
8	361	100	0.12	1597	1.96	27	601	3422	4.21	79520	97.79
9	374	735	0.9	2332	2.87	28	611	323	0.4	79843	98.19
10	388	262	0.32	2594	3.19	<b>29</b>	<b>621</b>	<b>280</b>	<b>0.34</b>	<b>80123</b>	<b>98.53</b>
<b>11</b>	<b>402</b>	<b>271</b>	<b>0.33</b>	<b>2865</b>	<b>3.52</b>	30	631	831	1.02	80954	99.55
12	416	1432	1.76	4297	5.28	31	641	72	0.09	81026	99.64
13	430	780	0.96	5077	6.24	32	652	51	0.06	81077	99.7
14	442	1040	1.28	6117	7.52	33	664	186	0.23	81263	99.93
15	454	5398	6.64	11515	14.16	34	679	10	0.01	81273	99.95
16	466	1075	1.32	12590	15.48	35	707	6	0.01	81279	99.95
17	479	1467	1.8	14057	17.29	36	740	38	0.05	81317	100
18	491	14419	17.73	28476	35.02						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.31**  
**2008 Spring AIMS Frequency Distribution**  
**Writing CRT Grade 6**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	275	870	1.07	870	1.07	19	523	3420	4.19	45691	56.04
1	275	.	.	.	.	20	536	3002	3.68	48693	59.72
2	275	.	.	.	.	21	549	12118	14.86	60811	74.59
3	275	.	.	.	.	22	561	2304	2.83	63115	77.41
4	275	.	.	.	.	23	574	2502	3.07	65617	80.48
5	275	.	.	.	.	24	590	10873	13.34	76490	93.82
6	275	987	1.21	1857	2.28	25	606	766	0.94	77256	94.76
7	346	101	0.12	1958	2.4	26	619	560	0.69	77816	95.45
8	367	94	0.12	2052	2.52	<b>27</b>	<b>631</b>	<b>2328</b>	<b>2.86</b>	<b>80144</b>	<b>98.3</b>
9	382	1436	1.76	3488	4.28	28	642	205	0.25	80349	98.55
10	395	289	0.35	3777	4.63	29	652	183	0.22	80532	98.78
<b>11</b>	<b>409</b>	<b>295</b>	<b>0.36</b>	<b>4072</b>	<b>4.99</b>	30	663	745	0.91	81277	99.69
12	426	4649	5.7	8721	10.7	31	673	31	0.04	81308	99.73
13	443	1234	1.51	9955	12.21	32	684	34	0.04	81342	99.77
14	457	1161	1.42	11116	13.63	33	695	160	0.2	81502	99.97
15	470	7187	8.82	18303	22.45	34	707	2	0	81504	99.97
16	482	2111	2.59	20414	25.04	35	724	2	0	81506	99.97
17	495	2513	3.08	22927	28.12	36	760	23	0.03	81529	100
<b>18</b>	<b>509</b>	<b>19344</b>	<b>23.73</b>	<b>42271</b>	<b>51.85</b>						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.32**  
**2008 Spring AIMS Frequency Distribution**  
**Writing CRT Grade 7**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	290	728	0.9	728	0.9	<b>19</b>	<b>524</b>	<b>4376</b>	<b>5.41</b>	<b>32615</b>	<b>40.34</b>
1	290	.	.	.	.	20	541	4234	5.24	36849	45.57
2	290	.	.	.	.	21	555	12813	15.85	49662	61.42
3	290	.	.	.	.	22	567	3645	4.51	53307	65.93
4	290	.	.	.	.	23	579	3879	4.8	57186	70.73
5	290	.	.	.	.	24	591	14493	17.92	71679	88.65
6	290	474	0.59	1202	1.49	25	603	1736	2.15	73415	90.8
7	290	78	0.1	1280	1.58	26	615	1190	1.47	74605	92.27
8	353	69	0.09	1349	1.67	27	625	3460	4.28	78065	96.55
9	374	599	0.74	1948	2.41	28	635	567	0.7	78632	97.25
10	389	172	0.21	2120	2.62	29	643	390	0.48	79022	97.73
11	402	235	0.29	2355	2.91	<b>30</b>	<b>650</b>	<b>1161</b>	<b>1.44</b>	<b>80183</b>	<b>99.17</b>
<b>12</b>	<b>416</b>	<b>2775</b>	<b>3.43</b>	<b>5130</b>	<b>6.34</b>	31	658	118	0.15	80301	99.31
13	434	980	1.21	6110	7.56	32	665	99	0.12	80400	99.44
14	454	1023	1.27	7133	8.82	33	672	340	0.42	80740	99.86
15	469	4181	5.17	11314	13.99	34	681	18	0.02	80758	99.88
16	482	1782	2.2	13096	16.2	35	691	19	0.02	80777	99.9
17	495	2286	2.83	15382	19.02	36	770	79	0.1	80856	100
18	508	12857	15.9	28239	34.93						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.



**Table 8.1.1.33**  
**2008 Spring AIMS Frequency Distribution**  
**Writing CRT Grade 8**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	0	300	392	0.49	392	<b>19</b>	<b>519</b>	<b>3953</b>	<b>4.91</b>	<b>22957</b>	<b>28.49</b>
1	1	300	.	.	.	20	533	3655	4.54	26612	33.03
2	2	300	.	.	.	21	546	10218	12.68	36830	45.71
3	3	300	.	.	.	22	559	3723	4.62	40553	50.33
4	4	300	.	.	.	23	573	4740	5.88	45293	56.22
5	5	300	.	.	.	24	589	18913	23.47	64206	79.69
6	6	300	395	0.49	787	25	604	3281	4.07	67487	83.76
7	7	341	87	0.11	874	26	616	2183	2.71	69670	86.47
8	8	359	63	0.08	937	27	627	5088	6.32	74758	92.79
9	9	373	513	0.64	1450	28	636	1141	1.42	75899	94.2
10	10	386	165	0.2	1615	29	644	934	1.16	76833	95.36
11	11	399	197	0.24	1812	30	652	2066	2.56	78899	97.93
12	<b>12</b>	<b>414</b>	<b>1371</b>	<b>1.7</b>	<b>3183</b>	<b>31</b>	<b>661</b>	<b>338</b>	<b>0.42</b>	<b>79237</b>	<b>98.35</b>
13	13	428	682	0.85	3865	32	669	281	0.35	79518	98.7
14	14	442	652	0.81	4517	33	679	721	0.89	80239	99.59
15	15	454	2301	2.86	6818	34	691	74	0.09	80313	99.68
16	16	467	1287	1.6	8105	35	709	66	0.08	80379	99.76
17	17	482	1517	1.88	9622	36	800	190	0.24	80569	100
18	18	501	9382	11.64	19004						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.34**  
**2008 Spring AIMS Frequency Distribution**  
**Writing CRT High School Cohort 0 (Grade 10) Prompt A**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	500	225	0.31	225	0.31	18.5	661	1519	2.07	14925	20.38
0.5	500	.	.	.	.	19	666	1479	2.02	16404	22.4
1	500	.	.	.	.	19.5	671	4451	6.08	20855	28.48
1.5	500	.	.	.	.	20	676	1821	2.49	22676	30.97
2	500	.	.	.	.	<b>20.5</b>	<b>681</b>	<b>1922</b>	<b>2.62</b>	<b>24598</b>	<b>33.59</b>
2.5	500	.	.	.	.	21	686	4876	6.66	29474	40.25
3	500	.	.	.	.	21.5	691	2024	2.76	31498	43.01
3.5	500	.	.	.	.	22	696	2368	3.23	33866	46.25
4	500	.	.	.	.	22.5	702	6783	9.26	40649	55.51
4.5	500	.	.	.	.	23	708	2147	2.93	42796	58.44
5	500	.	.	.	.	23.5	715	2712	3.7	45508	62.15
5.5	500	.	.	.	.	24	721	10677	14.58	56185	76.73
6	500	200	0.27	425	0.58	24.5	727	1703	2.33	57888	79.05
6.5	520	22	0.03	447	0.61	25	733	1452	1.98	59340	81.03
7	540	28	0.04	475	0.65	25.5	738	4281	5.85	63621	86.88
7.5	547	154	0.21	629	0.86	26	743	985	1.35	64606	88.23
8	553	43	0.06	672	0.92	26.5	748	876	1.2	65482	89.42
8.5	558	49	0.07	721	0.98	27	752	2359	3.22	67841	92.64
9	563	160	0.22	881	1.2	<b>27.5</b>	<b>757</b>	<b>581</b>	<b>0.79</b>	<b>68422</b>	<b>93.44</b>
9.5	568	63	0.09	944	1.29	28	761	503	0.69	68925	94.12
10	573	70	0.1	1014	1.38	28.5	765	1448	1.98	70373	96.1
10.5	578	256	0.35	1270	1.73	29	769	308	0.42	70681	96.52
11	583	101	0.14	1371	1.87	29.5	773	306	0.42	70987	96.94
11.5	589	97	0.13	1468	2	30	777	912	1.25	71899	98.19
12	594	517	0.71	1985	2.71	30.5	782	175	0.24	72074	98.42
12.5	599	206	0.28	2191	2.99	31	786	138	0.19	72212	98.61
13	604	197	0.27	2388	3.26	31.5	790	444	0.61	72656	99.22
13.5	609	591	0.81	2979	4.07	32	794	80	0.11	72736	99.33
<b>14</b>	<b>613</b>	<b>308</b>	<b>0.42</b>	<b>3287</b>	<b>4.49</b>	32.5	799	90	0.12	72826	99.45
14.5	618	319	0.44	3606	4.92	33	803	216	0.29	73042	99.75
15	622	835	1.14	4441	6.06	33.5	809	25	0.03	73067	99.78
15.5	627	463	0.63	4904	6.7	34	814	26	0.04	73093	99.82
16	632	550	0.75	5454	7.45	34.5	823	73	0.1	73166	99.92
16.5	638	1609	2.2	7063	9.65	35	832	10	0.01	73176	99.93
17	643	716	0.98	7779	10.62	35.5	866	14	0.02	73190	99.95
17.5	649	1004	1.37	8783	11.99	36	900	38	0.05	73228	100
18	655	4623	6.31	13406	18.31						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, students attending state hospital schools, and students who met expectations in a previous administration are not included in this summary.

**Table 8.1.1.35**  
**2008 Spring AIMS Frequency Distribution**  
**Writing CRT High School Cohort 0 (Grade 10) Prompt T**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	500	30	1.48	30	1.48	18.5	655	47	2.32	759	37.43
0.5	500	.	.	.	.	19	662	64	3.16	823	40.58
1	500	.	.	.	.	19.5	668	78	3.85	901	44.43
1.5	500	.	.	.	.	20	673	65	3.21	966	47.63
2	500	.	.	.	.	<b>20.5</b>	<b>678</b>	<b>66</b>	<b>3.25</b>	<b>1032</b>	<b>50.89</b>
2.5	500	.	.	.	.	21	683	94	4.64	1126	55.52
3	500	.	.	.	.	21.5	688	66	3.25	1192	58.78
3.5	500	.	.	.	.	22	693	56	2.76	1248	61.54
4	500	.	.	.	.	22.5	699	107	5.28	1355	66.81
4.5	500	.	.	.	.	23	705	72	3.55	1427	70.36
5	500	.	.	.	.	23.5	712	82	4.04	1509	74.41
5.5	500	.	.	.	.	24	720	163	8.04	1672	82.45
6	501	25	1.23	55	2.71	24.5	728	53	2.61	1725	85.06
6.5	513	2	0.1	57	2.81	25	735	38	1.87	1763	86.93
7	526	3	0.15	60	2.96	25.5	741	55	2.71	1818	89.64
7.5	534	11	0.54	71	3.5	26	747	27	1.33	1845	90.98
8	540	8	0.39	79	3.9	26.5	752	22	1.08	1867	92.06
8.5	546	5	0.25	84	4.14	<b>27</b>	<b>756</b>	<b>32</b>	<b>1.58</b>	<b>1899</b>	<b>93.64</b>
9	551	8	0.39	92	4.54	27.5	760	18	0.89	1917	94.53
9.5	556	9	0.44	101	4.98	28	765	15	0.74	1932	95.27
10	561	12	0.59	113	5.57	28.5	769	24	1.18	1956	96.45
10.5	566	22	1.08	135	6.66	29	773	9	0.44	1965	96.89
11	571	7	0.35	142	7	29.5	777	9	0.44	1974	97.34
11.5	577	17	0.84	159	7.84	30	781	16	0.79	1990	98.13
12	583	41	2.02	200	9.86	30.5	786	8	0.39	1998	98.52
12.5	589	31	1.53	231	11.39	31	790	7	0.35	2005	98.87
13	595	23	1.13	254	12.52	31.5	794	7	0.35	2012	99.21
13.5	600	32	1.58	286	14.1	32	798	4	0.2	2016	99.41
14	605	33	1.63	319	15.73	32.5	803	2	0.1	2018	99.51
<b>14.5</b>	<b>610</b>	<b>31</b>	<b>1.53</b>	<b>350</b>	<b>17.26</b>	33	807	4	0.2	2022	99.7
15	615	32	1.58	382	18.84	33.5	812	.	.	.	.
15.5	620	28	1.38	410	20.22	34	817	2	0.1	2024	99.8
16	625	26	1.28	436	21.5	34.5	823	3	0.15	2027	99.95
16.5	630	66	3.25	502	24.75	35	831	.	.	.	.
17	636	54	2.66	556	27.42	35.5	844	.	.	.	.
17.5	642	64	3.16	620	30.57	36	900	1	0.05	2028	100
18	649	92	4.54	712	35.11						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, students attending state hospital schools, and students who met expectations in a previous administration are not included in this summary.

**Table 8.1.1.36**  
**2008 Spring AIMS Frequency Distribution**  
**Writing CRT High School Cohort 9 (Grade 11) Prompt A**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	500	84	0.9	84	0.9	18.5	661	374	4	5471	58.46
0.5	500	.	.	.	.	19	666	355	3.79	5826	62.26
1	500	.	.	.	.	19.5	671	867	9.26	6693	71.52
1.5	500	.	.	.	.	20	676	281	3	6974	74.52
2	500	.	.	.	.	<b>20.5</b>	<b>681</b>	<b>249</b>	<b>2.66</b>	<b>7223</b>	<b>77.19</b>
2.5	500	.	.	.	.	21	686	519	5.55	7742	82.73
3	500	.	.	.	.	21.5	691	190	2.03	7932	84.76
3.5	500	.	.	.	.	22	696	168	1.8	8100	86.56
4	500	.	.	.	.	22.5	702	419	4.48	8519	91.03
4.5	500	.	.	.	.	23	708	110	1.18	8629	92.21
5	500	.	.	.	.	23.5	715	117	1.25	8746	93.46
5.5	500	.	.	.	.	24	721	296	3.16	9042	96.62
6	500	101	1.08	185	1.98	24.5	727	52	0.56	9094	97.18
6.5	520	20	0.21	205	2.19	25	733	34	0.36	9128	97.54
7	540	13	0.14	218	2.33	25.5	738	91	0.97	9219	98.51
7.5	547	50	0.53	268	2.86	26	743	16	0.17	9235	98.69
8	553	20	0.21	288	3.08	26.5	748	16	0.17	9251	98.86
8.5	558	15	0.16	303	3.24	27	752	35	0.37	9286	99.23
9	563	83	0.89	386	4.12	<b>27.5</b>	<b>757</b>	<b>8</b>	<b>0.09</b>	<b>9294</b>	<b>99.32</b>
9.5	568	36	0.38	422	4.51	28	761	8	0.09	9302	99.4
10	573	39	0.42	461	4.93	28.5	765	27	0.29	9329	99.69
10.5	578	136	1.45	597	6.38	29	769	4	0.04	9333	99.73
11	583	49	0.52	646	6.9	29.5	773	5	0.05	9338	99.79
11.5	589	76	0.81	722	7.72	30	777	9	0.1	9347	99.88
12	594	256	2.74	978	10.45	30.5	782	.	.	.	.
12.5	599	136	1.45	1114	11.9	31	786	1	0.01	9348	99.89
13	604	103	1.1	1217	13	31.5	790	6	0.06	9354	99.96
13.5	609	292	3.12	1509	16.13	32	794	1	0.01	9355	99.97
<b>14</b>	<b>613</b>	<b>124</b>	<b>1.33</b>	<b>1633</b>	<b>17.45</b>	32.5	799	.	.	.	.
14.5	618	163	1.74	1796	19.19	33	803	2	0.02	9357	99.99
15	622	406	4.34	2202	23.53	33.5	809	.	.	.	.
15.5	627	190	2.03	2392	25.56	34	814	.	.	.	.
16	632	234	2.5	2626	28.06	34.5	823	.	.	.	.
16.5	638	639	6.83	3265	34.89	35	832	1	0.01	9358	100
17	643	264	2.82	3529	37.71	35.5	866	.	.	.	.
17.5	649	336	3.59	3865	41.3	36	900	.	.	.	.
18	655	1232	13.17	5097	54.47						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, students attending state hospital schools, and students who met expectations in a previous administration are not included in this summary.

**Table 8.1.1.37**  
**2008 Spring AIMS Frequency Distribution**  
**Writing CRT High School Cohort 9 (Grade 11) Prompt T**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	500	17	1.99	17	1.99	18.5	655	47	5.5	480	56.14
0.5	500	.	.	.	.	19	662	28	3.27	508	59.42
1	500	.	.	.	.	19.5	668	38	4.44	546	63.86
1.5	500	.	.	.	.	20	673	25	2.92	571	66.78
2	500	.	.	.	.	<b>20.5</b>	<b>678</b>	<b>35</b>	<b>4.09</b>	<b>606</b>	<b>70.88</b>
2.5	500	.	.	.	.	21	683	45	5.26	651	76.14
3	500	.	.	.	.	21.5	688	27	3.16	678	79.3
3.5	500	.	.	.	.	22	693	26	3.04	704	82.34
4	500	.	.	.	.	22.5	699	29	3.39	733	85.73
4.5	500	.	.	.	.	23	705	16	1.87	749	87.6
5	500	.	.	.	.	23.5	712	17	1.99	766	89.59
5.5	500	.	.	.	.	24	720	42	4.91	808	94.5
6	501	13	1.52	30	3.51	24.5	728	7	0.82	815	95.32
6.5	513	2	0.23	32	3.74	25	735	7	0.82	822	96.14
7	526	1	0.12	33	3.86	25.5	741	13	1.52	835	97.66
7.5	534	3	0.35	36	4.21	26	747	7	0.82	842	98.48
8	540	2	0.23	38	4.44	26.5	752	2	0.23	844	98.71
8.5	546	2	0.23	40	4.68	<b>27</b>	<b>756</b>	<b>2</b>	<b>0.23</b>	<b>846</b>	<b>98.95</b>
9	551	2	0.23	42	4.91	27.5	760	.	.	.	.
9.5	556	3	0.35	45	5.26	28	765	.	.	.	.
10	561	8	0.94	53	6.2	28.5	769	1	0.12	847	99.06
10.5	566	8	0.94	61	7.13	29	773	4	0.47	851	99.53
11	571	9	1.05	70	8.19	29.5	777	.	.	.	.
11.5	577	10	1.17	80	9.36	30	781	3	0.35	854	99.88
12	583	27	3.16	107	12.51	30.5	786	.	.	.	.
12.5	589	17	1.99	124	14.5	31	790	.	.	.	.
13	595	17	1.99	141	16.49	31.5	794	.	.	.	.
13.5	600	24	2.81	165	19.3	32	798	.	.	.	.
14	605	14	1.64	179	20.94	32.5	803	1	0.12	855	100
<b>14.5</b>	<b>610</b>	<b>18</b>	<b>2.11</b>	<b>197</b>	<b>23.04</b>	33	807	.	.	.	.
15	615	31	3.63	228	26.67	33.5	812	.	.	.	.
15.5	620	22	2.57	250	29.24	34	817	.	.	.	.
16	625	17	1.99	267	31.23	34.5	823	.	.	.	.
16.5	630	45	5.26	312	36.49	35	831	.	.	.	.
17	636	34	3.98	346	40.47	35.5	844	.	.	.	.
17.5	642	31	3.63	377	44.09	36	900	.	.	.	.
18	649	56	6.55	433	50.64						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, students attending state hospital schools, and students who met expectations in a previous administration are not included in this summary.

**Table 8.1.1.38**  
**2008 Spring AIMS Frequency Distribution**  
**Writing CRT High School Cohort 8 (Grade 12) Prompt A**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	500	44	1.09	44	1.09	18.5	661	137	3.4	2574	63.86
0.5	500	.	.	.	.	19	666	139	3.45	2713	67.3
1	500	.	.	.	.	19.5	671	329	8.16	3042	75.47
1.5	500	.	.	.	.	20	676	114	2.83	3156	78.29
2	500	.	.	.	.	<b>20.5</b>	<b>681</b>	<b>91</b>	<b>2.26</b>	<b>3247</b>	<b>80.55</b>
2.5	500	.	.	.	.	21	686	186	4.61	3433	85.16
3	500	.	.	.	.	21.5	691	82	2.03	3515	87.2
3.5	500	.	.	.	.	22	696	70	1.74	3585	88.94
4	500	.	.	.	.	22.5	702	138	3.42	3723	92.36
4.5	500	.	.	.	.	23	708	44	1.09	3767	93.45
5	500	.	.	.	.	23.5	715	39	0.97	3806	94.42
5.5	500	.	.	.	.	24	721	119	2.95	3925	97.37
6	500	45	1.12	89	2.21	24.5	727	17	0.42	3942	97.79
6.5	520	8	0.2	97	2.41	25	733	11	0.27	3953	98.06
7	540	9	0.22	106	2.63	25.5	738	32	0.79	3985	98.86
7.5	547	38	0.94	144	3.57	26	743	6	0.15	3991	99.01
8	553	5	0.12	149	3.7	26.5	748	8	0.2	3999	99.21
8.5	558	9	0.22	158	3.92	27	752	12	0.3	4011	99.5
9	563	44	1.09	202	5.01	<b>27.5</b>	<b>757</b>	<b>1</b>	<b>0.02</b>	<b>4012</b>	<b>99.53</b>
9.5	568	23	0.57	225	5.58	28	761	1	0.02	4013	99.55
10	573	11	0.27	236	5.85	28.5	765	6	0.15	4019	99.7
10.5	578	84	2.08	320	7.94	29	769	3	0.07	4022	99.78
11	583	16	0.4	336	8.34	29.5	773	1	0.02	4023	99.8
11.5	589	25	0.62	361	8.96	30	777	2	0.05	4025	99.85
12	594	134	3.32	495	12.28	30.5	782	.	.	.	.
12.5	599	56	1.39	551	13.67	31	786	.	.	.	.
13	604	65	1.61	616	15.28	31.5	790	2	0.05	4027	99.9
13.5	609	147	3.65	763	18.93	32	794	.	.	.	.
<b>14</b>	<b>613</b>	<b>84</b>	<b>2.08</b>	<b>847</b>	<b>21.01</b>	32.5	799	.	.	.	.
14.5	618	85	2.11	932	23.12	33	803	3	0.07	4030	99.98
15	622	196	4.86	1128	27.98	33.5	809	.	.	.	.
15.5	627	101	2.51	1229	30.49	34	814	1	0.02	4031	100
16	632	120	2.98	1349	33.47	34.5	823	.	.	.	.
16.5	638	287	7.12	1636	40.59	35	832	.	.	.	.
17	643	138	3.42	1774	44.01	35.5	866	.	.	.	.
17.5	649	160	3.97	1934	47.98	36	900	.	.	.	.
18	655	503	12.48	2437	60.46						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, students attending state hospital schools, and students who met expectations in a previous administration are not included in this summary.

**Table 8.1.1.39**  
**2008 Spring AIMS Frequency Distribution**  
**Writing CRT High School Cohort 8 (Grade 12) Prompt T**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	500	9	2.54	9	2.54	18.5	655	14	3.95	233	65.82
0.5	500	.	.	.	.	19	662	9	2.54	242	68.36
1	500	.	.	.	.	19.5	668	20	5.65	262	74.01
1.5	500	.	.	.	.	20	673	14	3.95	276	77.97
2	500	.	.	.	.	<b>20.5</b>	<b>678</b>	<b>8</b>	<b>2.26</b>	<b>284</b>	<b>80.23</b>
2.5	500	.	.	.	.	21	683	13	3.67	297	83.9
3	500	.	.	.	.	21.5	688	4	1.13	301	85.03
3.5	500	.	.	.	.	22	693	8	2.26	309	87.29
4	500	.	.	.	.	22.5	699	12	3.39	321	90.68
4.5	500	.	.	.	.	23	705	7	1.98	328	92.66
5	500	.	.	.	.	23.5	712	7	1.98	335	94.63
5.5	500	.	.	.	.	24	720	8	2.26	343	96.89
6	501	9	2.54	18	5.08	24.5	728	1	0.28	344	97.18
6.5	513	.	.	.	.	25	735	6	1.69	350	98.87
7	526	1	0.28	19	5.37	25.5	741	.	.	.	.
7.5	534	3	0.85	22	6.21	26	747	1	0.28	351	99.15
8	540	1	0.28	23	6.5	26.5	752	.	.	.	.
8.5	546	2	0.56	25	7.06	<b>27</b>	<b>756</b>	.	.	.	.
9	551	7	1.98	32	9.04	27.5	760	.	.	.	.
9.5	556	3	0.85	35	9.89	28	765	.	.	.	.
10	561	1	0.28	36	10.17	28.5	769	.	.	.	.
10.5	566	10	2.82	46	12.99	29	773	.	.	.	.
11	571	2	0.56	48	13.56	29.5	777	.	.	.	.
11.5	577	7	1.98	55	15.54	30	781	1	0.28	352	99.44
12	583	16	4.52	71	20.06	30.5	786	.	.	.	.
12.5	589	12	3.39	83	23.45	31	790	1	0.28	353	99.72
13	595	6	1.69	89	25.14	31.5	794	1	0.28	354	100
13.5	600	15	4.24	104	29.38	32	798	.	.	.	.
14	605	9	2.54	113	31.92	32.5	803	.	.	.	.
<b>14.5</b>	<b>610</b>	<b>12</b>	<b>3.39</b>	<b>125</b>	<b>35.31</b>	33	807	.	.	.	.
15	615	11	3.11	136	38.42	33.5	812	.	.	.	.
15.5	620	9	2.54	145	40.96	34	817	.	.	.	.
16	625	17	4.8	162	45.76	34.5	823	.	.	.	.
16.5	630	18	5.08	180	50.85	35	831	.	.	.	.
17	636	8	2.26	188	53.11	35.5	844	.	.	.	.
17.5	642	13	3.67	201	56.78	36	900	.	.	.	.
18	649	18	5.08	219	61.86						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, students attending state hospital schools, and students who met expectations in a previous administration are not included in this summary.

**Table 8.1.1.40**  
**2008 Spring AIMS Frequency Distribution**  
**Science CRT Grade 4 Form A**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	200	.	.	.	.	28	471	1087	2.74	11488	29
1	241	.	.	.	.	29	475	1098	2.77	12586	31.78
2	278	1	0	1	0	30	480	1220	3.08	13806	34.86
3	300	.	.	.	.	31	484	1221	3.08	15027	37.94
4	317	.	.	.	.	32	489	1321	3.34	16348	41.27
5	330	1	0	2	0.01	33	493	1296	3.27	17644	44.55
6	342	3	0.01	5	0.01	34	498	1341	3.39	18985	47.93
7	352	7	0.02	12	0.03	<b>35</b>	<b>503</b>	<b>1436</b>	<b>3.63</b>	<b>20421</b>	<b>51.56</b>
8	361	21	0.05	33	0.08	36	508	1554	3.92	21975	55.48
9	369	33	0.08	66	0.17	37	513	1504	3.8	23479	59.28
10	376	62	0.16	128	0.32	38	518	1526	3.85	25005	63.13
11	383	89	0.22	217	0.55	39	523	1631	4.12	26636	67.25
12	390	173	0.44	390	0.98	40	528	1653	4.17	28289	71.42
13	396	209	0.53	599	1.51	41	534	1586	4	29875	75.43
14	402	266	0.67	865	2.18	42	540	1619	4.09	31494	79.51
15	408	358	0.9	1223	3.09	43	546	1441	3.64	32935	83.15
16	413	469	1.18	1692	4.27	<b>44</b>	<b>553</b>	<b>1346</b>	<b>3.4</b>	<b>34281</b>	<b>86.55</b>
17	418	519	1.31	2211	5.58	45	560	1242	3.14	35523	89.69
18	424	619	1.56	2830	7.15	46	567	1099	2.77	36622	92.46
19	429	617	1.56	3447	8.7	47	575	867	2.19	37489	94.65
20	434	697	1.76	4144	10.46	48	585	759	1.92	38248	96.57
21	438	758	1.91	4902	12.38	49	595	557	1.41	38805	97.97
22	443	846	2.14	5748	14.51	50	608	399	1.01	39204	98.98
23	448	882	2.23	6630	16.74	51	624	218	0.55	39422	99.53
24	452	891	2.25	7521	18.99	52	645	118	0.3	39540	99.83
25	457	915	2.31	8436	21.3	53	681	55	0.14	39595	99.97
<b>26</b>	<b>462</b>	<b>946</b>	<b>2.39</b>	<b>9382</b>	<b>23.69</b>	54	800	13	0.03	39608	100
27	466	1019	2.57	10401	26.26						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.



**Table 8.1.1.41**  
**2008 Spring AIMS Frequency Distribution**  
**Science CRT Grade 4 Form B**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	200	.	.	.	.	28	473	1123	2.88	11657	29.9
1	241	.	.	.	.	29	478	1123	2.88	12780	32.78
2	278	.	.	.	.	30	482	1261	3.23	14041	36.01
3	301	.	.	.	.	31	487	1275	3.27	15316	39.28
4	318	1	0	1	0	32	491	1275	3.27	16591	42.55
5	331	1	0	2	0.01	33	496	1335	3.42	17926	45.98
6	343	4	0.01	6	0.02	<b>34</b>	<b>501</b>	<b>1419</b>	<b>3.64</b>	<b>19345</b>	<b>49.62</b>
7	353	7	0.02	13	0.03	35	505	1445	3.71	20790	53.32
8	363	26	0.07	39	0.1	36	510	1449	3.72	22239	57.04
9	371	47	0.12	86	0.22	37	515	1524	3.91	23763	60.95
10	378	66	0.17	152	0.39	38	520	1545	3.96	25308	64.91
11	386	129	0.33	281	0.72	39	525	1506	3.86	26814	68.77
12	392	172	0.44	453	1.16	40	531	1504	3.86	28318	72.63
13	399	265	0.68	718	1.84	41	536	1461	3.75	29779	76.38
14	405	288	0.74	1006	2.58	42	542	1453	3.73	31232	80.1
15	410	402	1.03	1408	3.61	<b>43</b>	<b>548</b>	<b>1403</b>	<b>3.6</b>	<b>32635</b>	<b>83.7</b>
16	416	404	1.04	1812	4.65	44	555	1291	3.31	33926	87.01
17	421	539	1.38	2351	6.03	45	562	1145	2.94	35071	89.95
18	426	527	1.35	2878	7.38	46	569	1025	2.63	36096	92.58
19	431	655	1.68	3533	9.06	47	578	855	2.19	36951	94.77
20	436	700	1.8	4233	10.86	48	587	701	1.8	37652	96.57
21	441	772	1.98	5005	12.84	49	597	522	1.34	38174	97.91
22	446	828	2.12	5833	14.96	50	610	400	1.03	38574	98.94
23	451	881	2.26	6714	17.22	51	626	219	0.56	38793	99.5
24	455	854	2.19	7568	19.41	52	647	126	0.32	38919	99.82
25	460	956	2.45	8524	21.86	53	683	56	0.14	38975	99.96
<b>26</b>	<b>464</b>	<b>984</b>	<b>2.52</b>	<b>9508</b>	<b>24.39</b>	54	800	14	0.04	38989	100
27	469	1026	2.63	10534	27.02						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.42**  
**2008 Spring AIMS Frequency Distribution**  
**Science CRT Grade 8 Form A**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	200	.	.	.	.	<b>30</b>	<b>475</b>	<b>1008</b>	<b>2.57</b>	<b>12801</b>	<b>32.64</b>
1	256	.	.	.	.	31	478	1068	2.72	13869	35.36
2	292	.	.	.	.	32	482	1051	2.68	14920	38.04
3	313	.	.	.	.	33	486	1164	2.97	16084	41.01
4	329	.	.	.	.	34	490	1118	2.85	17202	43.86
5	341	3	0.01	3	0.01	35	494	1158	2.95	18360	46.81
6	352	5	0.01	8	0.02	36	498	1146	2.92	19506	49.73
7	361	8	0.02	16	0.04	<b>37</b>	<b>502</b>	<b>1193</b>	<b>3.04</b>	<b>20699</b>	<b>52.78</b>
8	369	23	0.06	39	0.1	38	506	1196	3.05	21895	55.82
9	377	57	0.15	96	0.24	39	511	1245	3.17	23140	59
10	384	91	0.23	187	0.48	40	515	1208	3.08	24348	62.08
11	390	126	0.32	313	0.8	41	519	1312	3.35	25660	65.42
12	396	193	0.49	506	1.29	42	524	1231	3.14	26891	68.56
13	401	215	0.55	721	1.84	43	529	1289	3.29	28180	71.85
14	407	334	0.85	1055	2.69	<b>44</b>	<b>534</b>	<b>1313</b>	<b>3.35</b>	<b>29493</b>	<b>75.2</b>
15	412	413	1.05	1468	3.74	45	539	1315	3.35	30808	78.55
16	417	405	1.03	1873	4.78	46	545	1217	3.1	32025	81.65
17	421	494	1.26	2367	6.04	47	550	1169	2.98	33194	84.63
18	426	605	1.54	2972	7.58	48	557	1164	2.97	34358	87.6
19	430	599	1.53	3571	9.1	49	563	1080	2.75	35438	90.35
20	435	664	1.69	4235	10.8	50	571	975	2.49	36413	92.84
21	439	636	1.62	4871	12.42	51	579	893	2.28	37306	95.12
22	443	751	1.91	5622	14.33	52	588	701	1.79	38007	96.9
23	447	760	1.94	6382	16.27	53	598	499	1.27	38506	98.18
24	451	815	2.08	7197	18.35	54	610	352	0.9	38858	99.07
25	455	849	2.16	8046	20.51	55	626	214	0.55	39072	99.62
26	459	898	2.29	8944	22.8	56	647	112	0.29	39184	99.91
27	463	900	2.29	9844	25.1	57	683	33	0.08	39217	99.99
28	467	961	2.45	10805	27.55	58	800	4	0.01	39221	100
29	471	988	2.52	11793	30.07						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.43**  
**2008 Spring AIMS Frequency Distribution**  
**Science CRT Grade 8 Form B**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	200	.	.	.	.	<b>30</b>	<b>475</b>	<b>1062</b>	<b>2.74</b>	<b>12885</b>	<b>33.26</b>
1	258	.	.	.	.	31	478	1110	2.87	13995	36.12
2	294	.	.	.	.	32	482	1068	2.76	15063	38.88
3	315	.	.	.	.	33	486	1188	3.07	16251	41.95
4	331	.	.	.	.	34	490	1162	3	17413	44.95
5	343	3	0.01	3	0.01	35	494	1095	2.83	18508	47.77
6	353	6	0.02	9	0.02	36	498	1200	3.1	19708	50.87
7	363	7	0.02	16	0.04	<b>37</b>	<b>502</b>	<b>1174</b>	<b>3.03</b>	<b>20882</b>	<b>53.9</b>
8	371	20	0.05	36	0.09	38	506	1125	2.9	22007	56.8
9	378	25	0.06	61	0.16	39	510	1187	3.06	23194	59.87
10	385	69	0.18	130	0.34	40	514	1189	3.07	24383	62.94
11	391	98	0.25	228	0.59	41	519	1180	3.05	25563	65.98
12	397	161	0.42	389	1	42	523	1193	3.08	26756	69.06
13	402	194	0.5	583	1.5	43	528	1159	2.99	27915	72.05
14	408	267	0.69	850	2.19	<b>44</b>	<b>533</b>	<b>1175</b>	<b>3.03</b>	<b>29090</b>	<b>75.09</b>
15	413	343	0.89	1193	3.08	45	538	1163	3	30253	78.09
16	418	407	1.05	1600	4.13	46	543	1115	2.88	31368	80.97
17	422	477	1.23	2077	5.36	47	549	1116	2.88	32484	83.85
18	427	562	1.45	2639	6.81	48	555	1062	2.74	33546	86.59
19	431	570	1.47	3209	8.28	49	561	1038	2.68	34584	89.27
20	435	634	1.64	3843	9.92	50	568	962	2.48	35546	91.75
21	440	722	1.86	4565	11.78	51	576	869	2.24	36415	93.99
22	444	773	2	5338	13.78	52	585	758	1.96	37173	95.95
23	448	775	2	6113	15.78	53	595	599	1.55	37772	97.5
24	452	839	2.17	6952	17.94	54	607	431	1.11	38203	98.61
25	455	906	2.34	7858	20.28	55	622	283	0.73	38486	99.34
26	459	896	2.31	8754	22.6	56	643	172	0.44	38658	99.78
27	463	1002	2.59	9756	25.18	57	678	71	0.18	38729	99.97
28	467	984	2.54	10740	27.72	58	800	13	0.03	38742	100
29	471	1083	2.8	11823	30.52						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.44**  
**2008 Spring AIMS Frequency Distribution**  
**Science CRT High School Cohort 0 (Grade 10) Form A**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	200	.	.	.	.	33	467	662	2.93	10033	44.36
1	227	.	.	.	.	34	471	658	2.91	10691	47.27
2	265	.	.	.	.	35	474	630	2.79	11321	50.05
3	287	1	0	1	0	<b>36</b>	<b>478</b>	<b>645</b>	<b>2.85</b>	<b>11966</b>	<b>52.9</b>
4	304	.	.	.	.	37	482	691	3.06	12657	55.96
5	317	.	.	.	.	38	486	690	3.05	13347	59.01
6	329	5	0.02	6	0.03	39	490	698	3.09	14045	62.1
7	338	3	0.01	9	0.04	40	494	661	2.92	14706	65.02
8	347	5	0.02	14	0.06	41	498	619	2.74	15325	67.76
9	355	11	0.05	25	0.11	<b>42</b>	<b>502</b>	<b>666</b>	<b>2.94</b>	<b>15991</b>	<b>70.7</b>
10	362	36	0.16	61	0.27	43	506	645	2.85	16636	73.55
11	368	53	0.23	114	0.5	44	510	645	2.85	17281	76.4
12	375	94	0.42	208	0.92	45	515	608	2.69	17889	79.09
13	381	148	0.65	356	1.57	46	519	571	2.52	18460	81.62
14	386	172	0.76	528	2.33	47	524	527	2.33	18987	83.95
15	391	256	1.13	784	3.47	48	529	479	2.12	19466	86.06
16	396	324	1.43	1108	4.9	49	534	477	2.11	19943	88.17
17	401	368	1.63	1476	6.53	<b>50</b>	<b>539</b>	<b>467</b>	<b>2.06</b>	<b>20410</b>	<b>90.24</b>
18	406	433	1.91	1909	8.44	51	544	363	1.6	20773	91.84
19	411	435	1.92	2344	10.36	52	550	334	1.48	21107	93.32
20	415	417	1.84	2761	12.21	53	556	327	1.45	21434	94.77
21	419	484	2.14	3245	14.35	54	562	248	1.1	21682	95.86
22	424	458	2.02	3703	16.37	55	569	211	0.93	21893	96.79
23	428	510	2.25	4213	18.63	56	577	204	0.9	22097	97.7
24	432	506	2.24	4719	20.86	57	585	166	0.73	22263	98.43
25	436	551	2.44	5270	23.3	58	595	121	0.53	22384	98.97
26	440	550	2.43	5820	25.73	59	606	97	0.43	22481	99.39
27	444	566	2.5	6386	28.23	60	619	65	0.29	22546	99.68
28	448	546	2.41	6932	30.65	61	635	48	0.21	22594	99.89
29	452	616	2.72	7548	33.37	62	657	14	0.06	22608	99.96
30	455	586	2.59	8134	35.96	63	695	7	0.03	22615	99.99
31	459	619	2.74	8753	38.7	64	800	3	0.01	22618	100
32	463	618	2.73	9371	41.43						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.45**  
**2008 Spring AIMS Frequency Distribution**  
**Science CRT High School Cohort 0 (Grade 10) Form B**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	200	.	.	.	.	33	468	561	2.54	9995	45.21
1	234	1	0	1	0	34	472	641	2.9	10636	48.11
2	271	.	.	.	.	<b>35</b>	<b>475</b>	<b>610</b>	<b>2.76</b>	<b>11246</b>	<b>50.87</b>
3	294	.	.	.	.	36	479	602	2.72	11848	53.6
4	310	.	.	.	.	37	483	658	2.98	12506	56.57
5	323	1	0	2	0.01	38	487	604	2.73	13110	59.31
6	334	2	0.01	4	0.02	39	490	619	2.8	13729	62.11
7	344	2	0.01	6	0.03	40	494	619	2.8	14348	64.91
8	352	13	0.06	19	0.09	41	498	607	2.75	14955	67.65
9	360	17	0.08	36	0.16	<b>42</b>	<b>502</b>	<b>673</b>	<b>3.04</b>	<b>15628</b>	<b>70.7</b>
10	367	36	0.16	72	0.33	43	506	553	2.5	16181	73.2
11	373	53	0.24	125	0.57	44	510	561	2.54	16742	75.74
12	379	104	0.47	229	1.04	45	515	515	2.33	17257	78.06
13	385	141	0.64	370	1.67	46	519	541	2.45	17798	80.51
14	390	160	0.72	530	2.4	47	523	506	2.29	18304	82.8
15	395	247	1.12	777	3.51	48	528	473	2.14	18777	84.94
16	400	318	1.44	1095	4.95	49	533	463	2.09	19240	87.04
17	405	361	1.63	1456	6.59	<b>50</b>	<b>538</b>	<b>407</b>	<b>1.84</b>	<b>19647</b>	<b>88.88</b>
18	409	393	1.78	1849	8.36	51	543	364	1.65	20011	90.52
19	414	435	1.97	2284	10.33	52	549	375	1.7	20386	92.22
20	418	494	2.23	2778	12.57	53	555	325	1.47	20711	93.69
21	422	472	2.14	3250	14.7	54	561	283	1.28	20994	94.97
22	426	519	2.35	3769	17.05	55	568	249	1.13	21243	96.1
23	430	567	2.56	4336	19.61	56	575	226	1.02	21469	97.12
24	434	536	2.42	4872	22.04	57	584	170	0.77	21639	97.89
25	438	561	2.54	5433	24.58	58	593	165	0.75	21804	98.63
26	442	518	2.34	5951	26.92	59	604	119	0.54	21923	99.17
27	446	578	2.61	6529	29.53	60	617	81	0.37	22004	99.54
28	450	556	2.52	7085	32.05	61	633	60	0.27	22064	99.81
29	453	591	2.67	7676	34.72	62	655	29	0.13	22093	99.94
30	457	613	2.77	8289	37.5	63	693	9	0.04	22102	99.98
31	461	573	2.59	8862	40.09	64	800	4	0.02	22106	100
32	464	572	2.59	9434	42.68						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.46**  
**2008 Spring AIMS Frequency Distribution**  
**Science CRT High School Cohort 1 (Grade 9) Form A**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	200	.	.	.	.	33	467	237	2.24	3099	29.32
1	227	.	.	.	.	34	471	242	2.29	3341	31.61
2	265	2	0.02	2	0.02	35	474	266	2.52	3607	34.12
3	287	.	.	.	.	<b>36</b>	<b>478</b>	<b>274</b>	<b>2.59</b>	<b>3881</b>	<b>36.72</b>
4	304	.	.	.	.	37	482	297	2.81	4178	39.53
5	317	.	.	.	.	38	486	286	2.71	4464	42.23
6	329	.	.	.	.	39	490	318	3.01	4782	45.24
7	338	.	.	.	.	40	494	311	2.94	5093	48.18
8	347	.	.	.	.	41	498	282	2.67	5375	50.85
9	355	3	0.03	5	0.05	<b>42</b>	<b>502</b>	<b>356</b>	<b>3.37</b>	<b>5731</b>	<b>54.22</b>
10	362	6	0.06	11	0.1	43	506	331	3.13	6062	57.35
11	368	18	0.17	29	0.27	44	510	345	3.26	6407	60.61
12	375	28	0.26	57	0.54	45	515	337	3.19	6744	63.8
13	381	42	0.4	99	0.94	46	519	327	3.09	7071	66.9
14	386	49	0.46	148	1.4	47	524	334	3.16	7405	70.06
15	391	76	0.72	224	2.12	48	529	357	3.38	7762	73.43
16	396	78	0.74	302	2.86	49	534	316	2.99	8078	76.42
17	401	83	0.79	385	3.64	<b>50</b>	<b>539</b>	<b>317</b>	<b>3</b>	<b>8395</b>	<b>79.42</b>
18	406	92	0.87	477	4.51	51	544	314	2.97	8709	82.39
19	411	125	1.18	602	5.7	52	550	289	2.73	8998	85.13
20	415	127	1.2	729	6.9	53	556	267	2.53	9265	87.65
21	419	139	1.32	868	8.21	54	562	238	2.25	9503	89.91
22	424	139	1.32	1007	9.53	55	569	225	2.13	9728	92.03
23	428	158	1.49	1165	11.02	56	577	215	2.03	9943	94.07
24	432	164	1.55	1329	12.57	57	585	171	1.62	10114	95.69
25	436	143	1.35	1472	13.93	58	595	167	1.58	10281	97.27
26	440	174	1.65	1646	15.57	59	606	123	1.16	10404	98.43
27	444	192	1.82	1838	17.39	60	619	70	0.66	10474	99.09
28	448	200	1.89	2038	19.28	61	635	54	0.51	10528	99.6
29	452	176	1.67	2214	20.95	62	657	21	0.2	10549	99.8
30	455	211	2	2425	22.94	63	695	15	0.14	10564	99.94
31	459	218	2.06	2643	25	64	800	6	0.06	10570	100
32	463	219	2.07	2862	27.08						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

**Table 8.1.1.47**  
**2008 Spring AIMS Frequency Distribution**  
**Science CRT High School Cohort 1 (Grade 9) Form B**

Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %	Raw Score	Scale Score	Freq.	%	Cum. Freq.	Cum. %
0	200	.	.	.	.	33	468	243	2.33	3189	30.6
1	234	1	0.01	1	0.01	34	472	252	2.42	3441	33.02
2	271	.	.	.	.	<b>35</b>	<b>475</b>	<b>250</b>	<b>2.4</b>	<b>3691</b>	<b>35.42</b>
3	294	.	.	.	.	36	479	246	2.36	3937	37.78
4	310	.	.	.	.	37	483	270	2.59	4207	40.37
5	323	1	0.01	2	0.02	38	487	271	2.6	4478	42.97
6	334	2	0.02	4	0.04	39	490	292	2.8	4770	45.77
7	344	.	.	.	.	40	494	279	2.68	5049	48.45
8	352	4	0.04	8	0.08	41	498	282	2.71	5331	51.15
9	360	4	0.04	12	0.12	<b>42</b>	<b>502</b>	<b>304</b>	<b>2.92</b>	<b>5635</b>	<b>54.07</b>
10	367	6	0.06	18	0.17	43	506	304	2.92	5939	56.99
11	373	16	0.15	34	0.33	44	510	317	3.04	6256	60.03
12	379	27	0.26	61	0.59	45	515	311	2.98	6567	63.01
13	385	27	0.26	88	0.84	46	519	309	2.96	6876	65.98
14	390	52	0.5	140	1.34	47	523	324	3.11	7200	69.08
15	395	63	0.6	203	1.95	48	528	289	2.77	7489	71.86
16	400	84	0.81	287	2.75	49	533	296	2.84	7785	74.7
17	405	76	0.73	363	3.48	<b>50</b>	<b>538</b>	<b>325</b>	<b>3.12</b>	<b>8110</b>	<b>77.82</b>
18	409	109	1.05	472	4.53	51	543	282	2.71	8392	80.52
19	414	110	1.06	582	5.58	52	549	257	2.47	8649	82.99
20	418	137	1.31	719	6.9	53	555	310	2.97	8959	85.96
21	422	147	1.41	866	8.31	54	561	265	2.54	9224	88.51
22	426	144	1.38	1010	9.69	55	568	211	2.02	9435	90.53
23	430	160	1.54	1170	11.23	56	575	212	2.03	9647	92.56
24	434	160	1.54	1330	12.76	57	584	220	2.11	9867	94.67
25	438	189	1.81	1519	14.57	58	593	164	1.57	10031	96.25
26	442	183	1.76	1702	16.33	59	604	154	1.48	10185	97.73
27	446	209	2.01	1911	18.34	60	617	104	1	10289	98.72
28	450	203	1.95	2114	20.28	61	633	67	0.64	10356	99.37
29	453	187	1.79	2301	22.08	62	655	45	0.43	10401	99.8
30	457	192	1.84	2493	23.92	63	693	19	0.18	10420	99.98
31	461	231	2.22	2724	26.14	64	800	2	0.02	10422	100
32	464	222	2.13	2946	28.27						

Note. Freq.=Frequency; Cum.=Cumulative. Students with no valid attempt, invalidation or off-grade are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections facilities, and students attending state hospital schools are not included in this summary.

### 8.1.2 AIMS DPA NRT State Results

This section of the technical report provides information on the results of the norm-referenced scores provided by the AIMS DPA. Students in grades 3-8 were administered a number of *TerraNova* items embedded within the AIMS DPA to provide norm-referenced scores. Please see Parts 3 and 4 of this report for more details on the design of the AIMS DPA. The AIMS DPA provided scale scores on the *TerraNova* vertical scale. In addition to scale scores, Arizona students were also assigned norm-referenced scores based on their scale scores and the 2000 *TerraNova* norms. For more information regarding the development of *TerraNova* norms please see *TerraNova, The Second Edition: California Achievement Tests Technical Report* (CTB/McGraw-Hill, 2003) and *TerraNova, The Second Edition, Norms Book* (CTB, 2001).

Table 8.1.2.1 presents norm-referenced results from the 2008 Spring AIMS DPA. Included in the table for each grade and content are the mean (M), standard deviation (SD), and scales scores at the 25<sup>th</sup>, 50<sup>th</sup>, and 75<sup>th</sup> percentiles for both the Arizona students (AZ) and the *TerraNova* national standardization data.



**Table 8.1.2.1**  
**2008 Spring AIMS NRT State Test Results**

Test	N	M	SD	Percentile			
				25	50	75	
<b>Mathematics</b>							
3	AZ	83299	610.7	45.7	584	611	636
	TN	1819	604.5	39.4	583	609	632
4	AZ	81568	637.1	49.1	612	638	661
	TN	1756	619.7	47.8	605	632	655
5	AZ	81303	648.8	50.9	621	649	673
	TN	1726	635.0	48.3	620	649	675
6	AZ	81577	671.3	55.1	644	675	701
	TN	1786	655.5	49.2	639	666	692
7	AZ	80807	674.9	51.6	651	679	705
	TN	1784	657.7	47.8	644	675	702
8	AZ	80506	693.0	53.9	665	697	726
	TN	1646	674.2	51.3	658	689	718
<b>Reading</b>							
3	AZ	83305	622.8	46.8	600	626	650
	TN	1886	624.1	41.7	606	631	655
4	AZ	81589	640.1	49.9	620	642	663
	TN	1882	631.4	47.6	616	644	668
5	AZ	81330	657.5	45.1	637	660	682
	TN	1596	648.5	46.8	631	657	681
6	AZ	81604	665.7	44.1	643	667	691
	TN	1773	650.6	46.7	633	660	686
7	AZ	80827	668.5	52.7	643	675	699
	TN	1852	648.2	54.4	639	667	693
8	AZ	80537	681.3	46.9	654	681	707
	TN	1666	662.8	50.5	646	676	704

Note. AZ=Arizona NRT; TN=TerraNova National Standardization Sample. Source for TN data *TerraNova, The Second Edition* Technical Report (2003) by CTB/McGraw-Hill. Students with no valid attempt, invalidation or off-grade are not included in the AZ NRT data summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in the AZ NRT summary. The AZ NRT results are not final results and are presented here for purposes of addressing reliability and validity. AZ NRT results should not be used for accountability purposes.

(table continues)

**Table 8.1.2.1**  
**2008 Spring AIMS NRT State Test Results (continued)**

Test	N	M	SD	Percentile		
				25	50	75
Language						
3 AZ	83305	620.6	38.5	601	623	642
TN	1886	621.2	40.2	602	626	650
4 AZ	81589	641.1	44.9	620	644	666
TN	1882	632.0	45.0	616	642	665
5 AZ	81330	654.6	51.9	635	658	680
TN	1596	644.8	51.6	631	655	678
6 AZ	81604	656.3	51.8	638	659	681
TN	1773	649.2	46.4	633	658	682
7 AZ	80827	669.8	46.6	646	670	692
TN	1852	648.4	53.5	637	664	687
8 AZ	80537	674.7	42.9	655	676	695
TN	1666	657.5	49.3	643	670	696

Note. AZ=Arizona NRT; TN=TerraNova National Standardization Sample. Source for TN data *TerraNova, The Second Edition* Technical Report (2003) by CTB/McGraw-Hill. Students with no valid attempt, invalidation or off-grade are not included in the AZ NRT data summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, and students attending state hospital schools are not included in the AZ NRT summary. The AZ NRT results are not final results and are presented here for purposes of addressing reliability and validity. AZ NRT results should not be used for accountability purposes.

## 8.2 Longitudinal Data

The Spring 2005 administration of the AIMS Reading, Mathematics, and Writing assessments represents the baseline year for the AIMS testing program. During the 2005 administration a new vertical scale was established for Grades 3-8, new scales were established for the high school assessments, and new cut scores were assigned for each grade and content area. In this section, the Spring 2008 results are presented along with the 2005, 2006, and 2007 results to provide longitudinal information. Tables 8.2.1-8.2.6 include scale score descriptive statistics and performance level distributions for 2005, 2006, 2007, and 2008 AIMS administrations. Caution should be taken when interpreting year-to-year comparisons, as slight differences in exclusion rules, changes in the manner in which accommodations were identified, and changes in the manner in which high school results were separated into grades (2005) and cohorts (2006, 2007, and 2008) may result in different student population characteristics reported in Tables 8.2.1-8.2.6.

The operational AIMS Science assessments were first administered in Spring 2008 to Grade 4, 8, and high school so that longitudinal information will be available from the 2009 administration.

**Table 8.2.1**  
**Longitudinal Comparison of Scale Scores**  
**Mathematics CRT**

Grade	Year	N	Scale Score		Percentiles				
			M	SD	P10	P25	P50	P75	P90
3	2005	77443	448.03	50.28	383	411	445	481	512
	2006	79060	447.37	48.15	387	414	447	477	505
	2007	80072	450.12	49.24	388	415	448	484	515
	2008	83299	450.99	50.65	385	413	450	482	512
4	2005	76152	476.55	53.20	407	440	478	511	539
	2006	79384	482.45	53.93	411	444	481	517	554
	2007	79500	485.07	55.71	411	447	488	522	553
	2008	81568	484.41	54.39	413	446	484	518	549
5	2005	76719	501.46	54.34	433	462	499	538	566
	2006	78460	504.49	54.43	438	466	501	542	570
	2007	79991	505.36	53.42	438	466	502	537	571
	2008	81303	506.94	55.18	435	466	505	543	582
6	2005	75884	515.57	57.72	441	475	515	556	594
	2006	78455	517.75	58.26	445	476	514	553	596
	2007	78793	522.59	61.85	443	477	521	564	608
	2008	81577	523.28	58.73	447	480	523	559	596
7	2005	77084	539.32	54.28	469	500	538	572	605
	2006	77414	543.49	56.18	470	502	543	578	614
	2007	78944	545.91	56.15	473	505	545	580	617
	2008	80807	548.92	55.27	476	509	548	583	619
8	2005	75599	552.01	58.62	477	508	552	590	623
	2006	77311	554.40	59.18	478	510	553	593	626
	2007	77527	556.83	60.66	479	514	553	594	636
	2008	80506	557.79	59.48	484	515	554	596	638
HS	2005 (Grade 10)	66788	704.70	46.06	648	672	702	734	766
	2006 (Cohort 08)	70193	701.62	42.44	648	670	699	729	755
	2007 (Cohort 09)	71315	703.61	42.50	651	672	701	731	758
	2008 (Cohort 00)	73940	704.83	42.82	651	674	703	734	762
HS	2005 (Grade 11)	27209	685.99	32.40	642	664	687	709	725
	2006 (Cohort 07)	13761	667.95	25.50	637	650	668	683	697
	2007 (Cohort 08)	14743	668.47	24.44	638	653	668	683	697
	2008 (Cohort 09)	15589	667.91	23.95	638	651	668	683	697
HS	2005 (Grade 12)	10191	664.70	29.73	629	642	662	685	704
	2006 (Cohort 06)	7421	668.33	27.39	637	650	666	683	699
	2007 (Cohort 07)	6975	665.68	24.33	635	648	664	680	695
	2008 (Cohort 08)	7667	666.25	23.65	636	649	666	681	695

Note. Students without a valid attempt, invalidation, off-grade, a non-standard accommodation (not in 2008), home-schooled students, attending Bureau of Indian Affairs schools, attending juvenile corrections centers (not in 2005), attending state hospital schools (not in 2005), and who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. Caution should be used when interpreting results across years, as exclusion rules differ slightly and high school identification of grade versus cohort may result in different student population characteristics.

**Table 8.2.2**  
**Longitudinal Comparison of Performance Level Distribution**  
**Mathematics CRT**

Grade	Year	N	% at Performance Level			
			FFBS	AS	MS	ES
3	2005	77443	10	19	51	20
	2006	79060	10	18	54	18
	2007	80072	10	18	53	19
	2008	83299	10	18	49	22
4	2005	76152	13	17	49	20
	2006	79384	10	17	49	24
	2007	79500	11	16	46	27
	2008	81568	11	15	49	25
5	2005	76719	13	20	48	19
	2006	78460	13	19	49	19
	2007	79991	12	19	51	18
	2008	81303	13	18	50	20
6	2005	75884	18	20	46	16
	2006	78455	18	19	46	16
	2007	78793	18	17	46	19
	2008	81577	17	16	49	18
7	2005	77084	16	20	52	13
	2006	77414	15	17	52	15
	2007	78944	14	17	51	18
	2008	80807	12	17	53	18
8	2005	75599	22	19	48	12
	2006	77311	21	19	47	12
	2007	77527	21	18	47	14
	2008	80506	21	18	49	13
HS	2005 (Grade 10)	66788	22	12	49	17
	2006 (Cohort 08)	70193	22	12	51	14
	2007 (Cohort 09)	71315	21	12	54	13
	2008 (Cohort 00)	73940	20	12	53	15
HS	2005 (Grade 11)	27209	28	16	53	3
	2006 (Cohort 07)	13761	49	26	24	1
	2007 (Cohort 08)	14743	49	25	25	1
	2008 (Cohort 09)	15589	49	25	25	1
HS	2005 (Grade 12)	10191	55	18	26	1
	2006 (Cohort 06)	7421	50	24	24	2
	2007 (Cohort 07)	6975	55	24	21	1
	2008 (Cohort 08)	7667	52	24	24	0

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students without a valid attempt, invalidation, off-grade, a non-standard accommodation (not in 2008), home-schooled students, attending Bureau of Indian Affairs schools, attending juvenile corrections centers (not in 2005), attending state hospital schools (not in 2005), and who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. Caution should be used when interpreting results across years, as exclusion rules differ slightly and high school identification of grade versus cohort may result in different student population characteristics.

**Table 8.2.3**  
**Longitudinal Comparison of Scale Scores**  
**Reading CRT**

Grade	Year	N	Scale Score		Percentiles				
			M	SD	P10	P25	P50	P75	P90
3	2005	77047	448.29	51.03	379	413	451	486	516
	2006	78487	451.49	50.75	380	418	454	486	516
	2007	79774	455.24	50.92	387	420	455	489	520
	2008	83305	456.44	53.11	384	421	455	490	520
4	2005	75685	468.70	53.56	398	431	469	506	531
	2006	78924	469.72	49.67	401	436	472	504	529
	2007	79270	470.71	52.12	397	433	472	504	529
	2008	81589	474.49	50.95	405	440	478	506	531
5	2005	76379	486.68	48.19	421	451	489	517	545
	2006	78157	489.26	47.66	426	456	491	519	547
	2007	79821	489.76	45.39	428	459	490	522	550
	2008	81330	491.42	47.25	427	457	493	527	549
6	2005	75940	494.22	49.30	427	460	493	526	561
	2006	78631	496.77	48.21	430	463	500	530	559
	2007	78842	498.99	48.38	433	466	499	533	562
	2008	81604	499.47	48.78	435	467	502	531	561
7	2005	77541	509.05	51.42	439	472	510	545	576
	2006	77917	512.12	51.84	444	474	511	551	582
	2007	79246	514.17	53.23	444	477	514	549	580
	2008	80827	515.76	51.13	446	479	518	549	580
8	2005	76356	515.56	52.76	448	478	517	553	582
	2006	78067	518.71	53.21	448	482	520	558	590
	2007	77849	520.67	56.86	448	481	520	558	589
	2008	80537	522.95	56.36	449	482	521	559	590
HS	2005 (Grade 10)	68788	699.75	50.35	631	667	701	731	762
	2006 (Cohort 08)	72191	703.19	48.13	635	669	703	737	765
	2007 (Cohort 09)	74071	703.15	50.25	634	668	703	739	770
	2008 (Cohort 00)	75491	703.81	48.43	636	671	706	740	768
HS	2005 (Grade 11)	18204	669.18	43.55	615	638	667	693	720
	2006 (Cohort 07)	12232	661.20	36.04	619	635	658	680	708
	2007 (Cohort 08)	12096	657.88	36.15	613	634	657	679	699
	2008 (Cohort 09)	11779	657.39	34.71	614	632	656	678	698
HS	2005 (Grade 12)	8882	651.91	40.67	606	623	649	677	706
	2006 (Cohort 06)	6261	663.57	43.13	619	635	658	684	721
	2007 (Cohort 07)	5505	653.95	35.80	609	630	653	675	695
	2008 (Cohort 08)	5248	653.05	33.36	614	632	652	675	694

Note. Students without a valid attempt, invalidation, off-grade, a non-standard accommodation (not in 2008), home-schooled students, attending Bureau of Indian Affairs schools, attending juvenile corrections centers (not in 2005), attending state hospital schools (not in 2005), and who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. Caution should be used when interpreting results across years, as exclusion rules differ slightly and high school identification of grade versus cohort may result in different student population characteristics.

**Table 8.2.4**  
**Longitudinal Comparison of Performance Level Distribution**  
**Reading CRT**

Grade	Year	N	% at Performance Level			
			FFBS	AS	MS	ES
3	2005	77047	10	26	55	10
	2006	78487	9	24	56	11
	2007	79774	7	24	57	12
	2008	83305	8	24	56	13
4	2005	75685	12	24	54	9
	2006	78924	11	24	57	8
	2007	79270	11	24	55	10
	2008	81589	9	21	60	9
5	2005	76379	10	24	58	9
	2006	78157	9	24	58	9
	2007	79821	8	23	63	7
	2008	81330	10	22	60	8
6	2005	75940	12	25	57	7
	2006	78631	10	25	60	4
	2007	78842	9	24	59	7
	2008	81604	10	22	61	8
7	2005	77541	10	25	58	7
	2006	77917	10	25	58	7
	2007	79246	9	24	58	9
	2008	80827	9	21	62	8
8	2005	76356	11	26	57	6
	2006	78067	11	27	58	5
	2007	77849	11	26	56	7
	2008	80537	11	22	60	7
HS	2005 (Grade 10)	68788	8	21	63	8
	2006 (Cohort 08)	72191	6	23	64	8
	2007 (Cohort 09)	74071	8	20	65	7
	2008 (Cohort 00)	75491	6	21	66	7
HS	2005 (Grade 11)	18204	15	39	43	3
	2006 (Cohort 07)	12232	15	53	31	1
	2007 (Cohort 08)	12096	21	48	31	1
	2008 (Cohort 09)	11779	17	52	30	1
HS	2005 (Grade 12)	8882	28	44	28	1
	2006 (Cohort 06)	6261	17	50	30	3
	2007 (Cohort 07)	5505	24	49	26	1
	2008 (Cohort 08)	5248	20	55	25	0

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students without a valid attempt, invalidation, off-grade, a non-standard accommodation (not in 2008), home-schooled students, attending Bureau of Indian Affairs schools, attending juvenile corrections centers (not in 2005), attending state hospital schools (not in 2005), and who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. Caution should be used when interpreting results across years, as exclusion rules differ slightly and high school identification of grade versus cohort may result in different student population characteristics.

**Table 8.2.5**  
**Longitudinal Comparison of Scale Scores**  
**Writing CRT**

Grade	Year	N	Scale Score		Percentiles				
			M	SD	P10	P25	P50	P75	P90
3	2005	77058	444.76	75.47	358	411	460	496	520
	2006	79024	423.07	67.32	357	388	436	459	495
	2007	80027	462.51	78.05	382	428	474	500	532
	2008	83184	444.69	73.44	359	426	461	498	530
4	2005	76049	470.86	76.49	385	435	481	514	553
	2006	79612	475.48	59.45	414	458	482	515	541
	2007	79541	494.23	77.85	413	470	503	540	575
	2008	81540	475.15	60.08	401	447	471	504	541
5	2005	76681	502.76	70.74	422	471	509	546	572
	2006	78769	496.06	67.08	418	467	505	542	568
	2007	80024	524.19	69.62	446	495	531	571	594
	2008	81317	520.01	61.11	454	491	528	567	567
6	2005	76125	525.89	65.43	445	497	538	563	593
	2006	79145	563.78	67.33	500	541	579	610	635
	2007	78909	537.51	70.41	461	513	540	578	609
	2008	81529	518.85	67.80	426	482	509	561	590
7	2005	77537	543.12	61.26	472	512	545	582	606
	2006	78537	566.06	61.11	497	544	581	605	617
	2007	79374	564.13	71.95	481	540	578	614	634
	2008	80856	539.79	64.81	469	508	555	591	603
8	2005	76227	548.41	66.65	466	517	558	588	615
	2006	78641	554.52	59.01	493	529	568	599	612
	2007	77969	549.73	69.28	455	501	560	590	627
	2008	80569	554.86	64.99	467	519	559	589	627
HS	2005 (Grade 10)	68272	693.41	48.63	630	668	698	723	749
	2006 (Cohort 08)	71958	684.74	49.39	630	664	689	712	742
	2007 (Cohort 09)	73812	699.51	47.57	642	676	707	726	752
	2008 (Cohort 00)	75256	696.39	46.28	638	671	702	721	752
HS	2005 (Grade 11)	15977	665.69	51.55	600	636	668	698	730
	2006 (Cohort 07)	12085	649.32	49.81	591	626	658	680	700
	2007 (Cohort 08)	11087	657.81	49.33	598	631	666	690	713
	2008 (Cohort 09)	10213	651.94	46.34	594	627	655	681	702
HS	2005 (Grade 12)	7609	649.49	52.88	579	619	657	683	710
	2006 (Cohort 06)	6133	652.39	55.68	586	626	658	684	718
	2007 (Cohort 07)	4647	647.27	49.06	587	622	654	680	701
	2008 (Cohort 08)	4385	645.69	47.14	589	622	655	671	702

Note. Students without a valid attempt, invalidation, off-grade, a non-standard accommodation (not in 2008), home-schooled students, attending Bureau of Indian Affairs schools, attending juvenile corrections centers (not in 2005), attending state hospital schools (not in 2005), and who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. Caution should be used when interpreting results across years, as exclusion rules differ slightly and high school identification of grade versus cohort may result in different student population characteristics.

**Table 8.2.6**  
**Longitudinal Comparison of Performance Level Distribution**  
**Writing CRT**

Grade	Year	N	% at Performance Level			
			FFBS	AS	MS	ES
3	2005	77058	6	21	63	10
	2006	79024	7	41	49	3
	2007	80027	6	14	65	16
	2008	83184	6	18	66	10
4	2005	76049	7	31	56	6
	2006	79612	4	30	64	2
	2007	79541	6	15	67	12
	2008	81540	4	26	67	3
5	2005	76681	6	29	63	2
	2006	78769	7	37	56	1
	2007	80024	4	28	63	4
	2008	81317	3	32	63	2
6	2005	76125	4	26	66	3
	2006	79145	3	10	76	11
	2007	78909	5	17	74	5
	2008	81529	5	23	67	5
7	2005	77537	3	18	77	2
	2006	78537	3	8	88	1
	2007	79374	4	14	76	6
	2008	80856	3	32	63	2
8	2005	76227	4	18	77	2
	2006	78641	3	19	78	0
	2007	77969	3	24	71	2
	2008	80569	2	21	74	2
HS	2005 (Grade 10)	68272	5	24	62	9
	2006 (Cohort 08)	71958	6	30	59	6
	2007 (Cohort 09)	73812	4	23	64	9
	2008 (Cohort 00)	75256	4	27	61	7
HS	2005 (Grade 11)	15977	12	43	41	4
	2006 (Cohort 07)	12085	15	57	27	1
	2007 (Cohort 08)	11087	14	51	33	1
	2008 (Cohort 09)	10213	17	57	25	1
HS	2005 (Grade 12)	7609	18	50	30	2
	2006 (Cohort 06)	6133	17	52	28	3
	2007 (Cohort 07)	4647	20	55	24	1
	2008 (Cohort 08)	4385	20	58	21	1

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students without a valid attempt, invalidation, off-grade, a non-standard accommodation (not in 2008), home-schooled students, attending Bureau of Indian Affairs schools, attending juvenile corrections centers (not in 2005), attending state hospital schools (not in 2005), and who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. Caution should be used when interpreting results across years, as exclusion rules differ slightly and high school identification of grade versus cohort may result in different student population characteristics.



## Part 9: Validity Evidence

Part 9 of the technical report provides evidence supporting the reliability and validity of the 2008 AIMS DPA and high school assessments. All data presented in this section were computed using population test data available in the final electronic data files. The following AERA/APA/NCME standards are addressed: 1.5, 1.7, 2.1, 2.4, 2.10, 2.13, 3.16, 4.15, 6.5, 7.1, 7.3, and 7.10.

### 9.1 Reliability

AERA/APA/NCME standards for Educational and Psychological Testing refer to reliability as the “consistency of [a measure] when the testing procedure is repeated on a population of individuals or groups.” A reliable test produces stable scores; that is, very similar score distributions would result if the test were administered repeatedly under similar conditions to the same students without memory or fatigue affecting the scores. Reliability of the 2008 Spring AIMS assessments was estimated in two ways: internal consistency for all multiple-choice tests and reliability of hand scoring for all Writing tests.

#### 9.1.1 Measures of Internal Consistency

For tests consisting of constructed response and/or multiple choice items, Cronbach’s alpha is a frequently used measure of internal consistency. Cronbach’s alpha is computed as (Crocker & Algina, 1986)

$$\hat{\alpha} = \frac{k}{k-1} \left( 1 - \frac{\sum \sigma_i^2}{\sigma_X^2} \right),$$

where  $k$  = number of items,  $\sigma_X^2$  = the total score variance, and  $\sigma_i^2$  = the variance of item  $i$ .

Although Cronbach’s alpha could be used as the measure of internal consistency for the 2008 Spring AIMS CRT Writing tests, this measure would likely overestimate the coefficient because the trait scores are based on the same response; that is the student response is scored repeatedly for each of the six traits. Furthermore, split-half reliability for a single prompt test may not be a valid estimate of reliability. Therefore, measures of internal consistency for the AIMS Writing tests are not reported.

Reliability estimates for the multiple choice tests administered as part of the 2008 Spring AIMS assessment are presented in Table 9.1.1.1 and Table 9.1.1.2. Note that a high degree of internal consistency is evident for all CRT tests. The reliability for the NRT assessment tends to be slightly lower than the corresponding CRT assessment due to the fewer number of items on each test.

**Table 9.1.1.1**  
**2008 Spring AIMS Internal Consistency**

Grade	CRT				NRT					
	Reading		Mathematics		Reading		Language		Mathematics	
	N	Alpha	N	Alpha	N	Alpha	N	Alpha	N	Alpha
03	83305	0.93	83299	0.93	83305	0.83	83305	0.79	83299	0.81
04	81589	0.93	81568	0.94	81589	0.86	81589	0.79	81568	0.83
05	81330	0.92	81303	0.94	81330	0.83	81330	0.84	81303	0.85
06	81604	0.92	81577	0.94	81604	0.83	81604	0.82	81577	0.87
07	80827	0.92	80807	0.94	80827	0.87	80827	0.81	80807	0.85
08	80537	0.91	80506	0.93	80537	0.83	80537	0.79	80506	0.83
HS	75491	0.91	73940	0.95	--	--	--	--	--	--

**Table 9.1.1.2**  
**2008 Spring AIMS Internal Consistency for Science**

Grade	Form	Science	
		N	Alpha
04	A	39608	0.89
04	B	38989	0.89
08	A	39221	0.91
08	B	38742	0.91
HS	A	22618	0.91
HS	B	22106	0.91

### 9.1.2 Reliability of Constructed-Response Scoring

For constructed response items, the consistency with which two raters assign scores to student responses is typically determined by inter rater agreement. During the scoring process, six traits were grouped into two rater-item blocks. Trait 1, 2, and 6 were grouped into one block and trait 3, 4, and 5 were grouped into another block. Traits grouped in the same rater-item block are considered to be measuring similar writing attributes and grouping these traits together facilitates training and the rater qualification process. Raters were assigned to score either the first or the second rater-item block. Since different raters scored different trait sets, the inter rater statistics computed here do not measure the degrees of agreement or disagreements between the same two raters across trait sets. Therefore, it is more accurate to describe the inter rater agreement reported in this section as inter rater position reliability.

For the grades 3-8 Writing tests, ten percent of the student responses were randomly selected and scored by a second rater to reduce rater drift and allow measures of rater agreement to be estimated. The statistics provided in Table 9.1.2.1 were calculated using the scores from both raters on each trait for the ten percent of the responses that were scored twice. For the high school writing prompts, each student paper was scored by two independent raters for all students. The statistics for Prompt A and Prompt T are presented in Table 9.1.2.2 and were calculated using the scores from both raters on a given trait. The two trait scores for each trait were used in the analyses to calculate rater agreement.

The raw score means, raw score standard deviations, and percentage of agreement between the first and second rater were computed. Perfect agreement is defined as trait scores that are exactly the same between the first and second rating. Adjacent agreement is defined as trait scores differing by one point between the first and the second rating. Discrepant cases include records in which scores from the first and the second rating differed by more than one point. In addition, Cohen's kappa and intraclass correlation are provided as indices of agreement between the first and the second rating.

Cohen's kappa (Cohen, 1960) is commonly used to summarize the agreement between raters and is computed as (Brennan & Prediger, 1981)

$$\kappa = \frac{\sum P_{ii} - \sum P_{i \cdot} P_{\cdot i}}{1 - \sum P_{i \cdot} P_{\cdot i}},$$

where  $\sum P_{ii}$  is the observed proportion of agreement and  $\sum P_{i \cdot} P_{\cdot i}$  is the chance proportion of agreement.

Intraclass correlation is defined by Shrout and Fleiss (1979) as "the correlation between one measurement on a target and another measurement obtained on that target." In the context of the 2008 Spring AIMS Writing tests, the "target" is the trait, and each measurement was obtained by a randomly assigned rater to that trait. Therefore, ICC(1,1) was used to estimate intraclass correlation. ICC(1,1) is estimated as (Shrout & Fleiss, 1979)

$$ICC(1,1) = \frac{BMS - WMS}{BMS + (k - 1)WMS},$$

where  $BMS$  = between-targets mean square,  $WMS$  = within-targets mean square, and  $k$  = the number of raters rating each target.

**Table 9.1.2.1**  
**2008 Spring AIMS Inter-Rater Position Consistency**  
**Grades 3-8**

Trait	N	Max Points	Rater 1		Rater 2		% Agreement			Kappa	Intraclass Correlation
			M	SD	M	SD	Perfect	Adjacent	Discrepant		
Grade 3											
1 Ideas and Content	8256	6	3.29	0.98	3.29	0.99	61.22	36.51	2.28	0.59	0.75
2 Organization	8256	6	3.26	0.97	3.26	0.99	61.28	36.53	2.19	0.59	0.75
3 Voice	8256	6	3.36	1.10	3.35	1.11	57.85	38.63	3.52	0.60	0.77
4 Word Choice	8256	6	3.34	1.10	3.34	1.10	58.13	38.44	3.43	0.60	0.77
5 Sentence Fluency	8256	6	3.33	1.10	3.32	1.10	58.35	38.17	3.49	0.61	0.77
6 Conventions	8256	6	3.22	0.98	3.23	0.99	60.97	36.70	2.33	0.59	0.75
Grade 4											
1 Ideas and Content	8123	6	3.21	0.85	3.23	0.84	65.96	32.89	1.14	0.58	0.72
2 Organization	8123	6	3.19	0.85	3.21	0.84	65.04	33.81	1.16	0.57	0.72
3 Voice	8123	6	2.99	0.92	2.99	0.91	59.97	37.62	2.41	0.55	0.70
4 Word Choice	8123	6	2.95	0.91	2.95	0.91	59.88	37.95	2.17	0.55	0.71
5 Sentence Fluency	8123	6	2.95	0.90	2.95	0.90	59.92	37.90	2.18	0.54	0.70
6 Conventions	8123	6	3.21	0.85	3.21	0.84	63.52	35.22	1.26	0.55	0.71
Grade 5											
1 Ideas and Content	8208	6	3.52	0.76	3.52	0.76	69.40	29.85	0.76	0.57	0.71
2 Organization	8208	6	3.45	0.77	3.44	0.77	68.01	31.29	0.71	0.56	0.71
3 Voice	8208	6	3.33	0.95	3.33	0.94	57.82	39.40	2.78	0.54	0.71
4 Word Choice	8208	6	3.32	0.94	3.32	0.93	58.32	39.30	2.38	0.54	0.72
5 Sentence Fluency	8208	6	3.32	0.94	3.32	0.93	58.17	39.36	2.46	0.54	0.71
6 Conventions	8208	6	3.43	0.77	3.42	0.78	68.02	31.23	0.76	0.57	0.71
Grade 6											
1 Ideas and Content	8216	6	3.14	0.89	3.14	0.88	60.46	37.34	2.20	0.55	0.70
2 Organization	8216	6	3.12	0.89	3.12	0.88	60.83	37.11	2.06	0.55	0.71
3 Voice	8216	6	3.16	0.89	3.17	0.90	56.16	40.71	3.13	0.49	0.66
4 Word Choice	8216	6	3.16	0.88	3.17	0.89	57.14	39.78	3.08	0.50	0.66
5 Sentence Fluency	8216	6	3.16	0.89	3.16	0.90	56.43	40.56	3.02	0.49	0.66
6 Conventions	8216	6	3.15	0.91	3.15	0.90	58.03	39.40	2.57	0.53	0.69
Grade 7											
1 Ideas and Content	8082	6	3.48	0.91	3.47	0.90	59.26	38.25	2.50	0.53	0.70
2 Organization	8082	6	3.47	0.90	3.47	0.90	60.33	37.58	2.09	0.54	0.71
3 Voice	8082	6	3.31	0.88	3.31	0.88	56.51	40.63	2.86	0.49	0.66
4 Word Choice	8082	6	3.30	0.86	3.29	0.87	58.13	39.69	2.18	0.50	0.67
5 Sentence Fluency	8082	6	3.28	0.88	3.27	0.88	56.84	40.51	2.65	0.49	0.67
6 Conventions	8082	6	3.48	0.89	3.47	0.89	58.49	39.14	2.38	0.52	0.69
Grade 8											
1 Ideas and Content	8002	6	3.74	0.89	3.73	0.87	59.49	37.95	2.56	0.52	0.67
2 Organization	8002	6	3.66	0.88	3.67	0.87	59.17	38.34	2.49	0.51	0.67
3 Voice	8002	6	3.59	0.87	3.59	0.87	59.16	38.34	2.50	0.51	0.67
4 Word Choice	8002	6	3.57	0.86	3.57	0.85	60.18	37.65	2.16	0.52	0.67
5 Sentence Fluency	8002	6	3.56	0.88	3.55	0.87	59.76	37.64	2.60	0.52	0.68
6 Conventions	8002	6	3.67	0.89	3.67	0.88	58.40	38.64	2.96	0.50	0.66

Note. Approximately 10% of the student responses were randomly assigned to be rated by a second rater. Only students receiving scores and condition codes of B, C, and D are included in this analysis.

**Table 9.1.2.2**  
**2008 Spring AIMS Inter-Rater Position Consistency**  
**High School**

Trait	N	Max Points	Rater 1		Rater 2		% Agreement			Kappa	Intraclass Correlation
			M	SD	M	SD	Perfect	Adjacent	Discrepant		
Prompt A											
1 Ideas and Content	73197	6	3.68	0.82	3.68	0.81	60.38	37.62	2.00	0.49	0.65
2 Organization	73197	6	3.67	0.82	3.67	0.81	61.08	36.94	1.98	0.50	0.66
3 Voice	73197	6	3.65	0.86	3.65	0.87	58.58	38.82	2.60	0.50	0.67
4 Word Choice	73197	6	3.63	0.86	3.64	0.86	59.43	38.30	2.27	0.51	0.68
5 Sentence Fluency	73197	6	3.63	0.87	3.63	0.87	58.99	38.58	2.43	0.51	0.68
6 Conventions	73197	6	3.65	0.82	3.66	0.81	60.19	37.71	2.09	0.49	0.65
Prompt T											
1 Ideas and Content	2028	6	3.24	1.08	3.26	1.05	57.50	39.05	3.45	0.59	0.76
2 Organization	2028	6	3.24	1.08	3.26	1.06	58.04	38.81	3.16	0.60	0.77
3 Voice	2028	6	3.34	1.07	3.38	1.08	55.03	40.24	4.73	0.56	0.74
4 Word Choice	2028	6	3.32	1.05	3.36	1.05	57.79	39.45	2.76	0.59	0.77
5 Sentence Fluency	2028	6	3.30	1.07	3.32	1.08	56.66	39.64	3.70	0.59	0.76
6 Conventions	2028	6	3.30	1.07	3.32	1.05	58.14	38.86	3.01	0.60	0.77

Note. All student responses were rated by two raters. Only students receiving scores and condition codes of B, C, and D are included in this analysis.

## 9.2 Validity

“Validity refers to the degree to which evidence and theory support the interpretations of test scores entailed by proposed users of tests. Validity is, therefore, the most fundamental consideration in developing and evaluating tests” (AERA/APA/NCME, 1999). The purpose of test score validation is not to validate the test itself, but to validate interpretations of the test scores for particular purposes or uses. Test score validation is not a quantifiable property but an ongoing process, beginning at initial conceptualization and continuing throughout the entire assessment process.

The 2008 Spring AIMS tests were designed and developed to provide fair and accurate ability scores that support appropriate, meaningful, and useful educational decisions. In addition to the evidence provided in Part 2 (Involvement of Arizona Educators), Part 3 (Test Design), Part 4 (Test Development), Part 5 (Test Administration), Part 6 (Data for Operational Analysis), Part 7 (Calibration and Scaling), Part 8 (Reliability), and Part 10 (Classification). As the Technical Report has progressed, chapter by chapter, it moves through the phases of the testing cycle. Each part of the Technical Report details the procedures and processes applied in the creation of AIMS, as well as their results. Each part also highlights the meaning and significance of the procedures, processes, and results, in terms of content and construct validity and the relationship to the *Standards*. Part 9.2 addresses two final issues in validity: the issues of bias and construct validity. The analyses presented here add to the perspectives provided in Chapters 2 through 10. Below is a brief review.

Part 2 of the Technical Report describes the involvement of Arizona educators, ADE, and CTB in the test development process. As indicated in Part 2, the test development process and the involvement of Arizona educators in that process formed an important part of the validity of the entire AIMS. The knowledge, expertise, and professional judgment offered by Arizona educators ultimately ensured that the content of AIMS formed an adequate and representative sample of appropriate content, and that the content formed a legitimate basis upon which to valid derive conclusions about student achievement.

Parts 3 and 4 of the Technical Report address the issue of test form development. Part 3 provides a general discussion of test book creation and editing process, the process of selecting operational test items, the content distribution of embedded field test item, and the process of obtaining ADE approvals. The test design process and the participation of Arizona educators in the process of test selection including item content and bias review provide a solid rationale for having confidence in the content and design of AIMS as a tool from which to derive valid inferences about Arizona student performance.

Part 5 of the Technical Report describes the process, procedures, and policies that guide the administration of the AIMS, including accommodations, security, and the written procedures provided to test administrators and school personnel.

Part 6 describes the data used for calibration and scaling of the Spring 2008 AIMS, and data cleaning steps in order to ensure valid calibration and scaling.

Part 7 of the Technical Report describes the calibration and equating methods, as well as processes and procedures for deriving scale scores from students' raw scores. Some references to introductory and advanced discussions of IRT are provided.

Part 9 of the Technical Report describes Cronbach's alpha as a measure for internal consistency for Reading, Mathematics, Science, and inter-rater position consistency for Writing.

Part 10 of the Technical Report describes a detailed analysis of classification consistency and classification accuracy.

Additional evidence to support the validity of the 2008 AIMS assessments is provided by the following:

- Identification of any items that displayed differential item functioning for subgroups of ethnicity and gender;
- Correlations between scores on the 2008 AIMS tests for each grade level as construct validity.

Also note that further evidence in support of the AIMS assessment has been documented in previous AIMS technical reports.

### **9.2.1 Differential Item Functioning**

Because test scores can have many sources of variation, the test publishers' task is to develop assessments that measure the intended abilities and skills without introducing extraneous elements or construct irrelevant variance. When tests measure something other than what they are intended to measure, test scores will reflect these unintended skills and knowledge, as well as what is purportedly assessed by the test. If this occurs, these tests can be called biased (Angoff, 1993; Camilli & Shepard, 1994; Green, 1975). One of the factors that may render test scores to be biased is differing cultural and socioeconomic experiences.

The 2008 Spring AIMS tests were developed using procedures to minimize item and test bias and include reviews such as the Content and Sensitivity Reviews described in Part 4 (i.e., Test Development). Expertise in this area is not, however, a substitute for statistical analyses of the items. Thus, an empirical differential item functioning (DIF) approach was used to examine potential item bias. DIF studies include systematic item analyses to determine if examinees with the same underlying level of ability have the same probability of correctly responding to the item. Items identified with DIF are further examined to determine if item performance differences between identifiable subgroups of the population are due to extraneous or construct irrelevant information making the items unfairly difficult for one of the subgroups.

DIF analyses of the 2008 Spring AIMS tests were conducted for ethnic subgroups and gender. In order to compute DIF, students must be matched on ability level using a conditioning variable. For these analyses, raw score on the CRT test in the content area of interest was used as the conditioning variable. Note that DIF analyses were conducted on Reading, Mathematics, and Science items only, as the writing single prompt assessments do not have an appropriate conditioning variable for analysis.

The Mantel-Haenszel chi-square statistic was used to identify DIF in multiple choice items. The Mantel-Haenszel statistic was first recommended by Holland and Thayer (1988), is frequently used, and is efficient in terms of statistical power (Clauser & Mazor, 1998). The Mantel-Haenszel statistic is computed as (Zwick, Donoghue, & Grima, 1993)

$$\text{Mantel } \chi^2 = \frac{\left( \sum_k F_k - \sum_k E(F_k) \right)^2}{\sum_k \text{Var}(F_k)},$$

where  $F_k$  is the sum of scores for the focal group at the  $k^{\text{th}}$  level of the matching variable. Note that the Mantel-Haenszel statistic is sensitive to  $N$  such that larger sample sizes increase the value of chi square.

In addition to the Mantel-Haenszel chi-square statistic, the delta statistic (MH-D DIF) was computed for all items. Educational Testing Service (ETS) first developed the MH-D DIF statistic. To compute delta, alpha (the odds ratio) is first computed as

$$\alpha_{MH} = \frac{\sum_{k=1}^K N_{r1k}N_{f0k} / N_k}{\sum_{k=1}^K N_{f1k}N_{r0k} / N_k},$$

where  $N_{r1k}$  is the number of correct responses in the reference group at ability level  $k$ ,  $N_{f0k}$  is the number of incorrect responses in the focal group at ability level  $k$ ,  $N_k$  is the total number of responses,  $N_{f1k}$  is the number of correct responses in the focal group at ability level  $k$ , and  $N_{r0k}$  is the number of incorrect responses in the reference group at ability level  $k$ . MH-D DIF is then computed as

$$\text{MH-D DIF} = -2.35 \ln(\alpha_{MH}).$$

Positive values of MH-D DIF indicate items that favor the focal group, whereas negative values of MH-D DIF indicate items that favor the reference group.

The Mantel-Haenszel chi-square statistic and the delta statistic were used in combination to identify the 2008 Spring AIMS items that exhibit strong, weak, or no DIF (Zieky, 1993). Table 9.2.1.1 indicates the criteria for each category used for the 2008 AIMS DIF analysis. An alpha level of .01 was used for all Mantel-Haenszel statistics. Note that the criteria are very lenient given very large sample sizes and the number of DIF statistics computed. In other words, a large number of items will be placed in categories B and C given the critical value. For reference, the critical value

for the chi-square statistic to be significant at  $p < 0.01$  is 6.635, at  $p < 0.001$  the critical value is 10.827, and at  $p < 0.0005$  the critical value is 12.116.

**Table 9.2.1.1**  
**Differential Item Functioning Flag Categories**

Category	Description	Criterion
A	No DIF	Mantel-Haenzel chi-square not significantly different than zero
B	Weak DIF	Significant Mantel-Haenzel chi-square ( $p < 0.01$ ) and $ \text{MH D-DIF}  < 1.5$
C	Strong DIF	Significant Mantel-Haenzel chi-square ( $p < 0.01$ ) and $ \text{MH D-DIF}  \geq 1.5$

Another measure of DIF, also presented here for the 2008 Spring AIMS operational items, is the standardized mean difference (SMD; Zwick et al., 1993). The SMD is an effect size index of DIF which is relatively easy to interpret. The SMD compares the means of the reference and focus groups, adjusting for the distribution of reference and focal group members on the conditioning variable, which for these analyses is the CRT raw score. SMD is computed as (Zwick et al., 1993)

$$SMD = p_{fk} \left( \sum_k m_{Fk} - \sum_k m_{Rk} \right),$$

where  $p_{fk}$  = proportion of the focal group members at the  $k$ th level of the matching variable,  $m_{Fk} = 1/N_{F1k}$  and  $m_{Rk} = 1/N_{R1k}$ . A negative SMD value indicates an item on which the focal group has a lower mean than the reference group. A positive SMD value indicates an item on which the reference group has a lower mean than the focal group.

Mantel-Haenzel chi-square statistic, MH-D DIF, SMD, and flag category results for all items in the 2008 Spring AIMS CRT tests are presented in tables 9.2.1.2 through 9.2.1.21. It is important to note that DIF analyses are also conducted on field test items prior to form construction. Very few AIMS items are identified as exhibiting strong DIF in field testing. All items exhibiting strong DIF are investigated for possible sources of differential functioning by CTB Test Development and ADE staff and such items are avoided in form construction. Not surprisingly, the vast majority of items on the operational AIMS exhibit no DIF or weak DIF. Items that were flagged for exhibiting strong DIF are summarized in Table 9.2.1.22. There were a total of 23 items that were flagged as exhibiting strong DIF.



**Table 9.2.1.2**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 3**

Item	Reference: Male N = 42537 Focal: Female N = 40493				Reference: White N = 35326 Focal: African Am. N = 4681				Reference: White N = 35326 Focal: Hispanic N = 36180				Reference: White N = 35326 Focal: Native Am. N = 4424				Reference: White N = 35326 Focal: Asian N = 2430			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	83.23	0.36	0.03	B>	11.72	0.30	0.02	B>	223.48	0.67	0.05	B>	0.98	0.09	0.01	A	26.39	0.71	0.04	B>
2	0.85	0.04	0.00	A	7.07	0.26	0.02	B>	50.49	0.37	0.02	B>	5.80	0.24	0.02	A	6.71	0.44	0.02	B>
3	33.12	-0.23	-0.02	B<	26.36	-0.46	-0.03	B<	262.47	-0.73	-0.06	B<	53.59	-0.67	-0.05	B<	24.52	-0.66	-0.04	B<
4	134.82	0.65	0.02	B>	22.35	0.59	0.03	B>	6.90	0.17	0.01	B>	5.44	0.28	0.01	A	9.39	0.72	0.02	B>
5	54.01	-0.34	-0.02	B<	0.72	-0.09	-0.01	A	22.91	-0.26	-0.01	B<	4.15	-0.20	-0.01	A	7.37	-0.46	-0.02	B<
6	11.75	0.54	0.00	B>	2.97	-0.49	0.00	A	3.50	0.35	0.00	A	2.50	0.55	0.00	A	2.66	-0.94	0.00	A
7	46.78	0.27	0.02	B>	1.54	0.11	0.01	A	52.62	0.33	0.02	B>	0.06	0.02	0.00	A	0.85	0.12	0.01	A
8	324.09	0.81	0.05	B>	0.05	0.02	0.00	A	75.24	-0.44	-0.03	B<	49.51	-0.68	-0.05	B<	0.05	-0.04	0.00	A
9	1229.62	-1.61	-0.09	C<	0.00	0.00	0.00	A	61.52	0.41	0.02	B>	58.77	0.77	0.05	B>	0.03	0.03	0.00	A
10	5.47	0.10	0.01	A	28.34	0.51	0.04	B>	78.91	0.44	0.03	B>	9.09	0.29	0.02	B>	51.27	1.21	0.05	B>
11	0.64	-0.04	0.00	A	50.16	-0.67	-0.04	B<	323.17	-0.90	-0.05	B<	89.18	-0.87	-0.06	B<	78.62	-1.27	-0.06	B<
12	17.25	-0.15	-0.01	B<	5.78	-0.20	-0.02	A	226.62	-0.60	-0.05	B<	107.55	-0.89	-0.08	B<	6.36	-0.28	-0.02	A
13	15.26	-0.18	-0.01	B<	2.05	0.14	0.01	A	131.07	0.59	0.04	B>	42.94	0.66	0.05	B>	20.26	0.75	0.03	B>
14	32.99	0.50	0.01	B>	0.47	0.13	0.00	A	1.02	0.11	0.00	A	8.18	-0.49	-0.01	B<	4.64	-0.69	-0.01	A
15	8.06	-0.12	-0.01	B<	7.91	0.27	0.02	B>	0.00	0.00	0.00	A	0.84	0.09	0.01	A	1.25	0.18	0.01	A
16	180.10	-0.51	-0.04	B<	72.33	-0.72	-0.06	B<	10.88	-0.14	-0.01	B<	1.20	0.10	0.01	A	4.07	-0.25	-0.02	A
17	441.39	-0.92	-0.06	B<	96.75	-0.95	-0.06	B<	611.58	-1.19	-0.08	B<	365.43	-1.91	-0.13	C<	50.93	-1.03	-0.05	B<
18	3.32	-0.09	0.00	A	1.54	-0.13	-0.01	A	3.39	-0.10	-0.01	A	0.69	-0.09	-0.01	A	1.49	-0.23	-0.01	A
19	57.38	0.28	0.02	B>	0.47	-0.06	-0.01	A	116.10	0.46	0.04	B>	22.96	0.41	0.04	B>	0.80	0.11	0.01	A
20	1.20	-0.04	0.00	A	0.36	0.05	0.00	A	62.08	-0.34	-0.03	B<	25.25	-0.43	-0.04	B<	11.04	-0.44	-0.03	B<
21	18.79	0.18	0.01	B>	1.63	0.12	0.01	A	0.00	0.00	0.00	A	23.19	-0.44	-0.04	B<	3.62	-0.27	-0.01	A
22	3.07	-0.08	0.00	A	43.93	-0.65	-0.04	B<	25.25	-0.27	-0.02	B<	43.83	-0.66	-0.05	B<	2.96	-0.30	-0.01	A
23	78.60	0.37	0.02	B>	0.83	0.09	0.00	A	108.81	0.50	0.03	B>	2.98	0.16	0.01	A	1.49	0.17	0.01	A
24	13.85	-0.30	-0.01	B<	0.02	0.03	0.00	A	0.27	-0.05	0.00	A	0.00	0.00	0.00	A	0.09	-0.12	0.00	A
25	3.12	0.08	0.00	A	0.13	-0.04	0.00	A	39.99	0.34	0.02	B>	18.31	0.45	0.03	B>	0.01	-0.02	0.00	A
26	4.95	0.08	0.01	A	0.05	0.02	0.00	A	16.83	0.17	0.01	B>	17.07	0.35	0.03	B>	0.41	0.08	0.01	A
27	69.07	0.30	0.03	B>	1.36	0.10	0.01	A	23.46	-0.20	-0.02	B<	17.61	-0.35	-0.03	B<	1.11	-0.13	-0.01	A
28	18.11	0.20	0.01	B>	4.23	0.21	0.01	A	65.75	0.43	0.02	B>	27.25	0.54	0.04	B>	2.92	0.28	0.01	A
29	1.78	-0.05	0.00	A	62.26	-0.69	-0.06	B<	0.05	0.01	0.00	A	0.38	0.06	0.00	A	11.50	-0.38	-0.03	B<
30	0.24	0.03	0.00	A	0.65	-0.09	0.00	A	4.90	-0.13	0.00	A	2.46	-0.17	-0.01	A	8.34	-0.52	-0.02	B<

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

**Table 9.2.1.2 (continued)**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 3**

Item	Reference: Male N = 42537 Focal: Female N = 40493				Reference: White N = 35326 Focal: African Am. N = 4681				Reference: White N = 35326 Focal: Hispanic N = 36180				Reference: White N = 35326 Focal: Native Am. N = 4424				Reference: White N = 35326 Focal: Asian N = 2430			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	96.82	-0.39	-0.03	B<	89.40	0.84	0.07	B>	109.15	0.46	0.04	B>	44.09	0.59	0.05	B>	28.94	0.74	0.04	B>
32	5.74	0.13	0.00	A	0.01	-0.01	0.00	A	5.38	0.15	0.01	A	5.87	0.29	0.01	A	0.31	-0.12	0.00	A
33	0.58	0.05	0.00	A	6.77	0.38	0.01	B>	80.02	0.72	0.02	B>	41.15	0.96	0.03	B>	1.40	0.33	0.00	A
34	1042.61	-1.18	-0.10	B<	106.95	-0.86	-0.08	B<	324.47	-0.73	-0.07	B<	0.04	-0.02	0.00	A	10.01	-0.36	-0.03	B<
35	0.87	0.04	0.00	A	8.67	0.28	0.02	B>	52.20	0.35	0.03	B>	5.48	0.22	0.02	A	10.70	0.51	0.02	B>
36	3.70	-0.08	-0.01	A	0.00	-0.01	0.00	A	53.79	-0.33	-0.02	B<	54.14	-0.67	-0.05	B<	0.00	-0.01	0.00	A
37	53.29	-0.32	-0.02	B<	0.04	0.02	0.00	A	7.49	0.14	0.01	B>	84.94	0.91	0.07	B>	1.48	0.19	0.01	A
38	108.91	0.35	0.04	B>	12.27	0.28	0.03	B>	123.57	0.43	0.04	B>	29.56	0.44	0.04	B>	6.40	0.26	0.03	A
39	169.17	0.48	0.04	B>	0.24	0.04	0.00	A	27.91	0.22	0.02	B>	13.68	-0.33	-0.03	B<	2.01	0.17	0.01	A
40	222.75	-0.57	-0.05	B<	16.15	-0.35	-0.03	B<	222.98	-0.63	-0.05	B<	68.52	-0.76	-0.06	B<	10.12	-0.38	-0.03	B<
41	2.58	-0.09	0.00	A	12.39	0.44	0.02	B>	29.59	0.37	0.01	B>	14.60	0.46	0.02	B>	1.81	0.31	0.01	A
42	65.41	0.35	0.02	B>	51.21	0.69	0.05	B>	233.28	0.75	0.05	B>	190.80	1.37	0.10	B>	11.09	0.50	0.02	B>
43	64.95	0.39	0.02	B>	5.69	0.26	0.01	A	27.85	0.29	0.02	B>	33.03	0.64	0.04	B>	0.21	-0.08	0.00	A
44	19.23	-0.27	-0.01	B<	20.28	0.58	0.02	B>	106.32	0.72	0.03	B>	29.34	0.69	0.03	B>	24.71	1.30	0.02	B>
45	0.19	0.02	0.00	A	0.00	0.01	0.00	A	30.57	-0.25	-0.02	B<	30.65	-0.48	-0.04	B<	0.22	-0.07	0.00	A
46	5.26	-0.08	-0.01	A	2.04	-0.12	-0.01	A	45.08	-0.27	-0.02	B<	0.49	-0.06	0.00	A	5.00	-0.25	-0.02	A
47	126.38	-0.45	-0.03	B<	27.80	0.47	0.04	B>	32.13	0.26	0.01	B>	0.28	0.05	0.00	A	7.34	0.38	0.02	B>
48	27.67	-0.21	-0.02	B<	2.16	0.13	0.01	A	0.62	0.03	0.00	A	0.85	-0.08	-0.01	A	14.95	0.52	0.03	B>
49	133.50	-0.45	-0.03	B<	15.61	-0.34	-0.03	B<	13.15	-0.16	-0.01	B<	0.01	-0.01	0.00	A	5.40	-0.30	-0.02	A
50	0.26	-0.02	0.00	A	0.81	0.08	0.01	A	79.87	0.42	0.03	B>	97.67	0.93	0.07	B>	25.42	0.80	0.04	B>
51	19.37	0.16	0.01	B>	5.85	-0.20	-0.02	A	55.57	0.31	0.03	B>	0.01	-0.01	0.00	A	0.28	0.07	0.00	A
52	1.03	0.05	0.00	A	2.32	0.17	0.01	A	134.91	0.67	0.03	B>	41.22	0.75	0.04	B>	1.69	0.23	0.01	A
53	287.14	0.65	0.05	B>	2.68	0.14	0.01	A	40.67	-0.28	-0.02	B<	7.03	-0.23	-0.02	B<	3.06	0.23	0.01	A
54	119.44	0.80	0.02	B>	9.20	0.46	0.01	B>	36.54	0.51	0.01	B>	37.84	0.93	0.03	B>	2.09	0.45	0.01	A
55	149.36	-0.48	-0.04	B<	0.82	-0.08	-0.01	A	1.52	-0.06	0.00	A	0.02	0.01	0.00	A	3.09	0.24	0.01	A
56	280.97	0.82	0.04	B>	24.24	0.53	0.03	B>	41.35	0.36	0.02	B>	29.07	0.58	0.04	B>	2.94	0.31	0.01	A
57	39.46	0.23	0.02	B>	81.86	0.76	0.07	B>	96.72	0.41	0.04	B>	29.91	0.47	0.04	B>	30.69	0.69	0.05	B>
58	178.09	-0.65	-0.03	B<	2.84	-0.17	-0.01	A	33.24	0.32	0.01	B>	56.52	0.82	0.05	B>	15.93	0.75	0.02	B>
59	29.07	-0.24	-0.01	B<	26.66	-0.50	-0.03	B<	71.37	-0.44	-0.03	B<	1.56	-0.12	-0.01	A	14.57	-0.60	-0.02	B<
60	49.06	-0.27	-0.02	B<	5.18	-0.20	-0.01	A	144.15	-0.52	-0.04	B<	80.02	-0.78	-0.06	B<	7.09	-0.35	-0.02	B<

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

**Table 9.2.1.2 (continued)**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 3**

Item	Reference: Male N = 42537 Focal: Female N = 40493				Reference: White N = 35326 Focal: African Am. N = 4681				Reference: White N = 35326 Focal: Hispanic N = 36180				Reference: White N = 35326 Focal: Native Am. N = 4424				Reference: White N = 35326 Focal: Asian N = 2430			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
61	343.04	-0.77	-0.05	B<	47.90	-0.63	-0.05	B<	412.26	-0.93	-0.06	B<	30.22	-0.50	-0.04	B<	16.92	-0.58	-0.03	B<
62	123.98	0.65	0.02	B>	8.10	0.36	0.01	B>	21.22	0.31	0.01	B>	19.47	0.55	0.03	B>	1.98	0.33	0.01	A
63	24.42	0.22	0.01	B>	10.58	-0.32	-0.02	B<	23.99	-0.25	-0.02	B<	38.72	-0.60	-0.04	B<	1.23	-0.18	-0.01	A
64	42.75	0.24	0.02	B>	24.90	-0.41	-0.04	B<	0.81	-0.04	-0.01	A	14.52	-0.33	-0.03	B<	24.59	-0.56	-0.05	B<
65	48.64	0.26	0.02	B>	17.95	0.36	0.03	B>	22.54	0.20	0.01	B>	0.03	-0.02	0.00	A	0.27	-0.06	0.00	A
66	62.03	0.66	0.01	B>	2.46	-0.26	-0.01	A	16.11	0.39	0.01	B>	7.32	0.47	0.01	B>	0.00	0.03	0.00	A
67	1.26	-0.05	0.00	A	14.89	0.40	0.02	B>	54.21	0.40	0.02	B>	1.19	0.11	0.01	A	24.21	0.89	0.03	B>
68	19.95	0.17	0.01	B>	5.55	0.21	0.02	A	21.71	-0.20	-0.02	B<	0.00	0.00	0.00	A	0.04	-0.03	0.00	A
69	45.05	0.26	0.02	B>	6.85	-0.22	-0.02	B<	0.17	0.02	-0.01	A	15.09	-0.34	-0.03	B<	1.26	0.15	0.01	A
70	13.66	0.15	0.01	B>	4.53	-0.19	-0.01	A	294.75	-0.78	-0.05	B<	59.92	-0.71	-0.05	B<	14.29	-0.54	-0.03	B<
71	344.54	0.65	0.06	B>	5.25	0.19	0.02	A	14.73	0.15	0.01	B>	0.62	-0.07	-0.01	A	4.13	-0.22	-0.02	A
72	55.09	0.25	0.02	B>	1.93	0.11	0.01	A	7.62	-0.11	0.00	B<	1.77	0.11	0.01	A	5.14	-0.24	-0.02	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

**Table 9.2.1.3**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 4**

Item	Reference: Male N = 41605 Focal: Female N = 39830				Reference: White N = 35352 Focal: African Am. N = 4783				Reference: White N = 35352 Focal: Hispanic N = 34811				Reference: White N = 35352 Focal: Native Am. N = 4118				Reference: White N = 35352 Focal: Asian N = 2386			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	0.00	0.00	0.00	A	14.53	0.46	0.02	B>	89.87	0.62	0.03	B>	3.71	0.23	0.01	A	5.12	0.48	0.01	A
2	249.20	-0.70	-0.04	B<	17.32	-0.39	-0.03	B<	4.67	-0.11	-0.01	A	74.71	-0.83	-0.06	B<	1.99	-0.22	-0.01	A
3	209.46	0.81	0.03	B>	2.99	0.20	0.01	A	91.95	0.60	0.03	B>	26.52	0.64	0.03	B>	7.81	0.55	0.02	B>
4	0.82	0.04	0.00	A	3.06	0.18	0.01	A	20.74	0.25	0.02	B>	1.34	-0.12	-0.01	A	21.27	0.88	0.03	B>
5	158.02	-0.49	-0.04	B<	9.01	-0.26	-0.02	B<	203.96	-0.62	-0.05	B<	125.90	-0.99	-0.09	B<	17.08	-0.51	-0.03	B<
6	45.35	0.25	0.02	B>	0.02	-0.01	0.00	A	40.23	-0.26	-0.03	B<	21.54	-0.40	-0.04	B<	8.13	-0.34	-0.03	B<
7	0.21	0.03	0.00	A	9.66	-0.37	-0.02	B<	25.73	-0.33	-0.01	B<	39.99	-0.74	-0.04	B<	14.01	-0.69	-0.02	B<
8	446.00	0.82	0.06	B>	3.95	-0.17	-0.01	A	2.36	-0.07	0.00	A	6.53	-0.23	-0.02	A	9.39	-0.39	-0.02	B<
9	463.94	1.10	0.05	B>	0.08	-0.03	0.00	A	71.68	-0.50	-0.03	B<	39.32	-0.66	-0.04	B<	14.93	-0.74	-0.02	B<
10	213.96	0.60	0.04	B>	56.09	0.68	0.05	B>	435.13	0.97	0.07	B>	122.74	1.05	0.08	B>	80.92	1.37	0.07	B>
11	23.78	0.25	0.01	B>	37.51	0.67	0.04	B>	193.11	0.79	0.04	B>	43.39	0.72	0.05	B>	8.02	0.54	0.02	B>
12	78.19	-0.34	-0.03	B<	4.50	-0.18	-0.01	A	110.53	-0.45	-0.03	B<	52.05	-0.64	-0.05	B<	0.46	-0.09	-0.01	A
13	120.70	-0.58	-0.02	B<	1.44	0.13	0.01	A	39.41	0.38	0.02	B>	8.84	0.34	0.02	B>	14.95	0.81	0.02	B>
14	133.47	-0.48	-0.03	B<	7.21	-0.24	-0.02	B<	45.42	-0.31	-0.02	B<	0.44	0.06	0.01	A	2.62	-0.23	-0.01	A
15	25.96	-0.25	-0.01	B<	10.99	0.35	0.02	B>	39.10	0.35	0.02	B>	4.54	0.23	0.02	A	5.50	0.44	0.01	A
16	11.43	-0.18	-0.01	B<	0.02	0.02	0.00	A	18.19	0.26	0.01	B>	2.27	0.17	0.01	A	1.23	0.23	0.01	A
17	34.26	0.23	0.02	B>	20.88	0.40	0.03	B>	0.01	-0.01	0.00	A	0.11	-0.03	0.00	A	7.60	0.40	0.02	B>
18	26.14	-0.29	-0.01	B<	10.16	-0.38	-0.02	B<	132.18	-0.76	-0.03	B<	26.03	-0.61	-0.03	B<	9.24	-0.66	-0.01	B<
19	12.89	-0.14	-0.01	B<	24.40	0.42	0.03	B>	19.58	-0.19	-0.02	B<	10.14	0.28	0.03	B>	0.19	0.06	0.00	A
20	61.16	-0.34	-0.02	B<	0.86	0.09	0.00	A	106.91	0.51	0.03	B>	89.67	1.01	0.07	B>	7.07	0.41	0.02	B>
21	1.39	0.06	0.00	A	2.28	0.17	0.01	A	6.69	0.16	0.01	B>	16.42	0.48	0.02	B>	7.77	0.59	0.02	B>
22	1.77	0.05	0.00	A	37.62	-0.50	-0.04	B<	505.08	-0.94	-0.07	B<	220.70	-1.27	-0.11	B<	114.99	-1.27	-0.09	B<
23	12.09	-0.13	-0.01	B<	2.26	0.12	0.01	A	0.84	-0.04	0.00	A	0.04	-0.02	0.00	A	0.26	-0.06	0.00	A
24	14.40	-0.17	-0.01	B<	5.88	-0.24	-0.02	A	124.69	-0.57	-0.04	B<	65.28	-0.81	-0.06	B<	0.10	-0.06	0.00	A
25	53.93	0.27	0.02	B>	4.65	0.18	0.01	A	6.41	0.11	0.01	A	0.91	-0.09	-0.01	A	0.21	-0.05	0.00	A
26	0.34	-0.03	0.00	A	0.04	0.02	0.00	A	73.39	0.49	0.02	B>	11.47	0.38	0.02	B>	0.07	0.05	0.00	A
27	2.68	0.06	0.01	A	30.84	0.45	0.04	B>	151.49	0.51	0.04	B>	28.78	0.47	0.04	B>	24.02	0.59	0.05	B>
28	31.00	-0.26	-0.01	B<	24.57	0.50	0.03	B>	0.07	0.01	0.00	A	1.13	-0.11	-0.01	A	6.17	0.45	0.01	A
29	1.74	-0.05	0.00	A	15.39	-0.35	-0.03	B<	202.03	-0.65	-0.05	B<	132.02	-1.11	-0.08	B<	0.89	-0.14	-0.01	A
30	238.91	0.93	0.03	B>	2.25	0.19	0.01	A	0.41	-0.05	0.00	A	0.91	-0.12	-0.01	A	15.28	-0.86	-0.02	B<

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

**Table 9.2.1.3 (continued)**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 4**

Item	Reference: Male N = 41605 Focal: Female N = 39830				Reference: White N = 35352 Focal: African Am. N = 4783				Reference: White N = 35352 Focal: Hispanic N = 34811				Reference: White N = 35352 Focal: Native Am. N = 4118				Reference: White N = 35352 Focal: Asian N = 2386			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	28.37	-0.20	-0.02	B<	0.43	0.06	0.01	A	32.53	-0.24	-0.02	B<	3.13	-0.16	-0.01	A	0.28	-0.07	0.00	A
32	234.76	-0.68	-0.04	B<	2.59	-0.15	-0.01	A	0.22	-0.02	0.00	A	40.14	0.65	0.04	B>	11.52	0.58	0.02	B>
33	8.19	-0.14	-0.01	B<	5.89	-0.25	-0.01	A	76.68	-0.48	-0.03	B<	5.70	-0.26	-0.02	A	11.04	-0.55	-0.02	B<
34	1.37	0.05	0.00	A	10.21	-0.31	-0.02	B<	2.66	-0.09	-0.01	A	1.82	0.14	0.01	A	11.13	-0.54	-0.02	B<
35	15.43	0.21	0.01	B>	0.26	-0.06	0.00	A	53.42	0.44	0.02	B>	76.65	1.12	0.05	B>	5.13	-0.38	-0.01	A
36	22.71	0.38	0.01	B>	1.13	-0.17	0.00	A	4.65	0.20	0.00	A	21.10	0.80	0.02	B>	3.30	-0.52	-0.01	A
37	3.55	0.10	0.00	A	0.10	0.04	0.00	A	0.11	-0.02	0.00	A	35.32	0.71	0.04	B>	1.10	-0.22	-0.01	A
38	259.66	-0.65	-0.05	B<	0.51	-0.06	0.00	A	49.03	-0.31	-0.02	B<	10.97	-0.30	-0.03	B<	1.76	-0.19	-0.01	A
39	54.78	0.45	0.01	B>	9.42	-0.38	-0.02	B<	41.71	-0.45	-0.02	B<	0.01	0.01	0.00	A	0.00	-0.02	0.00	A
40	157.27	-0.45	-0.04	B<	4.16	0.17	0.01	A	44.97	0.27	0.02	B>	9.42	0.26	0.02	B>	2.47	-0.18	-0.01	A
41	99.78	-0.38	-0.03	B<	0.02	-0.01	0.00	A	21.07	0.20	0.02	B>	3.27	0.16	0.01	A	0.46	0.09	0.01	A
42	3.07	0.08	0.00	A	6.83	-0.26	-0.02	B<	6.53	-0.14	-0.01	A	37.61	-0.61	-0.04	B<	3.89	-0.32	-0.01	A
43	388.58	-0.69	-0.07	B<	3.73	-0.16	-0.02	A	5.93	-0.10	-0.01	A	0.30	-0.05	-0.01	A	0.61	0.09	0.01	A
44	0.12	0.01	0.00	A	7.16	-0.23	-0.02	B<	3.57	0.09	0.01	A	5.05	-0.21	-0.02	A	14.02	0.54	0.03	B>
45	40.73	0.26	0.02	B>	5.69	-0.21	-0.02	A	6.67	-0.12	-0.01	B<	17.46	-0.38	-0.03	B<	1.29	-0.16	-0.01	A
46	4.03	-0.09	-0.01	A	3.72	0.18	0.01	A	0.00	0.00	0.00	A	54.96	0.72	0.06	B>	0.58	0.12	0.01	A
47	26.12	0.25	0.01	B>	14.33	-0.38	-0.02	B<	0.62	0.05	0.00	A	14.00	0.41	0.03	B>	0.01	-0.03	0.00	A
48	195.82	-0.60	-0.04	B<	0.01	-0.01	0.00	A	19.47	-0.21	-0.01	B<	1.36	-0.11	-0.01	A	1.68	-0.19	-0.01	A
49	20.56	0.20	0.01	B>	1.52	-0.12	-0.01	A	3.10	-0.09	0.00	A	2.64	0.17	0.01	A	0.14	0.06	0.00	A
50	68.09	0.33	0.02	B>	9.86	0.27	0.02	B>	186.20	0.62	0.05	B>	55.81	0.71	0.06	B>	10.35	0.44	0.03	B>
51	47.97	-0.29	-0.02	B<	24.21	-0.44	-0.03	B<	22.54	-0.22	-0.02	B<	0.34	0.06	0.00	A	3.64	-0.27	-0.01	A
52	327.24	-0.95	-0.04	B<	75.85	-0.93	-0.05	B<	488.21	-1.32	-0.07	B<	141.65	-1.30	-0.08	B<	38.96	-1.22	-0.03	B<
53	170.20	0.52	0.04	B>	53.36	-0.61	-0.05	B<	2.77	-0.07	-0.01	A	34.72	-0.53	-0.05	B<	45.68	-0.87	-0.05	B<
54	65.13	0.28	0.03	B>	53.09	0.58	0.05	B>	206.27	0.57	0.05	B>	20.60	0.39	0.04	B>	2.98	-0.19	-0.02	A
55	0.15	-0.02	0.00	A	25.64	-0.56	-0.03	B<	10.58	-0.21	-0.01	B<	3.65	0.24	0.01	A	9.60	-0.60	-0.02	B<
56	20.45	0.21	0.01	B>	29.66	0.53	0.03	B>	66.46	0.42	0.03	B>	5.51	0.23	0.02	A	15.22	0.67	0.02	B>
57	300.05	-0.82	-0.04	B<	13.18	-0.36	-0.02	B<	85.26	-0.49	-0.03	B<	72.82	-0.84	-0.06	B<	9.54	-0.53	-0.02	B<
58	71.45	-0.31	-0.03	B<	10.70	-0.27	-0.02	B<	61.59	0.33	0.03	B>	2.10	0.13	0.01	A	3.33	0.23	0.02	A
59	11.82	0.12	0.01	B>	69.31	0.68	0.06	B>	10.72	0.13	0.01	B>	15.33	0.34	0.03	B>	34.89	0.70	0.05	B>
60	36.36	0.39	0.01	B>	2.31	0.21	0.01	A	20.54	0.33	0.01	B>	7.70	0.39	0.01	B>	3.37	0.47	0.01	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

**Table 9.2.1.3 (continued)**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 4**

Item	Reference: Male N = 41605 Focal: Female N = 39830				Reference: White N = 35352 Focal: African Am. N = 4783				Reference: White N = 35352 Focal: Hispanic N = 34811				Reference: White N = 35352 Focal: Native Am. N = 4118				Reference: White N = 35352 Focal: Asian N = 2386			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
61	41.60	-0.26	-0.02	B<	2.54	0.14	0.01	A	36.35	0.27	0.02	B>	0.81	0.09	0.00	A	24.75	0.70	0.04	B>
62	37.95	0.28	0.02	B>	0.01	-0.01	0.00	A	62.43	-0.40	-0.02	B<	11.42	-0.33	-0.02	B<	4.56	-0.34	-0.01	A
63	123.99	0.42	0.04	B>	0.00	0.00	0.00	A	58.43	-0.32	-0.02	B<	6.49	-0.22	-0.02	A	9.56	-0.39	-0.03	B<
64	138.83	0.42	0.04	B>	30.49	-0.44	-0.04	B<	1.18	0.04	0.00	A	0.06	-0.02	0.00	A	10.87	-0.35	-0.03	B<
65	76.74	0.35	0.03	B>	8.14	-0.26	-0.02	B<	187.91	-0.61	-0.05	B<	95.35	-0.92	-0.07	B<	5.41	-0.32	-0.02	A
66	0.26	-0.02	0.00	A	16.68	0.39	0.03	B>	29.56	0.27	0.02	B>	19.97	0.44	0.03	B>	40.36	1.08	0.04	B>
67	6.19	0.12	0.01	A	0.21	0.05	0.00	A	39.94	0.35	0.02	B>	11.92	0.37	0.02	B>	1.90	0.25	0.01	A
68	148.58	0.49	0.04	B>	15.53	0.34	0.03	B>	194.27	0.63	0.05	B>	87.80	0.87	0.07	B>	33.07	0.84	0.04	B>
69	127.85	0.74	0.02	B>	5.38	-0.30	-0.01	A	9.35	0.23	0.01	B>	4.57	0.30	0.01	A	5.44	-0.55	-0.01	A
70	52.23	0.32	0.02	B>	19.54	0.42	0.03	B>	216.78	0.73	0.05	B>	121.78	1.16	0.08	B>	10.49	0.51	0.02	B>

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

**Table 9.2.1.4**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 5**

Item	Reference: Male N = 41604 Focal: Female N = 39508				Reference: White N = 35396 Focal: African Am. N = 4637				Reference: White N = 35396 Focal: Hispanic N = 34739				Reference: White N = 35396 Focal: Native Am. N = 4059				Reference: White N = 35396 Focal: Asian N = 2295			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	177.62	-0.51	-0.04	B<	53.49	-0.61	-0.05	B<	414.92	-0.88	-0.08	B<	39.62	-0.56	-0.05	B<	34.43	-0.74	-0.05	B<
2	50.70	-0.29	-0.02	B<	18.28	0.38	0.03	B>	139.79	0.54	0.04	B>	35.98	0.56	0.04	B>	24.29	0.76	0.04	B>
3	0.17	0.02	0.00	A	25.61	0.42	0.04	B>	154.15	0.52	0.04	B>	22.94	0.41	0.04	B>	14.95	0.49	0.03	B>
4	195.30	0.74	0.03	B>	1.35	0.14	0.01	A	6.96	-0.16	-0.01	B<	2.70	-0.19	-0.01	A	4.93	-0.42	-0.01	A
5	8.16	-0.12	-0.01	B<	42.36	0.60	0.04	B>	53.10	0.34	0.02	B>	0.00	0.01	0.00	A	23.17	0.75	0.04	B>
6	383.81	1.14	0.04	B>	2.81	-0.21	-0.01	A	25.44	-0.34	-0.01	B<	1.80	-0.17	-0.01	A	3.93	-0.46	-0.01	A
7	526.24	-0.85	-0.07	B<	57.16	-0.62	-0.06	B<	39.97	-0.26	-0.02	B<	10.47	0.28	0.02	B>	7.72	-0.35	-0.02	B<
8	326.99	0.77	0.05	B>	49.20	0.66	0.05	B>	129.47	0.54	0.04	B>	22.46	0.45	0.04	B>	12.08	0.56	0.02	B>
9	53.55	0.29	0.02	B>	25.82	0.44	0.04	B>	107.81	0.46	0.04	B>	25.51	0.46	0.04	B>	9.70	0.43	0.03	B>
10	9.41	0.13	0.01	B>	8.67	-0.28	-0.02	B<	8.28	0.14	0.01	B>	10.95	0.33	0.02	B>	0.07	0.05	0.00	A
11	10.71	0.15	0.01	B>	1.34	-0.12	-0.01	A	31.54	-0.30	-0.02	B<	22.42	-0.47	-0.03	B<	10.51	-0.53	-0.02	B<
12	0.52	-0.03	0.00	A	0.99	-0.09	-0.01	A	45.50	-0.29	-0.02	B<	2.99	-0.16	-0.01	A	16.37	-0.54	-0.03	B<
13	74.06	-0.37	-0.02	B<	32.02	0.53	0.04	B>	116.88	0.53	0.04	B>	30.02	0.53	0.04	B>	9.23	0.51	0.02	B>
14	40.61	0.28	0.02	B>	3.55	-0.18	-0.01	A	23.42	-0.24	-0.02	B<	59.17	-0.75	-0.05	B<	9.75	-0.49	-0.02	B<
15	49.37	0.53	0.01	B>	2.06	0.22	0.01	A	34.82	0.52	0.02	B>	20.38	0.71	0.02	B>	1.21	0.39	0.00	A
16	126.86	0.52	0.03	B>	0.26	-0.05	0.00	A	60.95	0.41	0.03	B>	1.19	0.11	0.01	A	4.83	0.39	0.01	A
17	66.76	-0.30	-0.03	B<	0.96	-0.09	-0.01	A	1.37	0.05	0.00	A	20.55	0.41	0.03	B>	4.88	-0.25	-0.02	A
18	127.38	0.44	0.03	B>	0.27	0.05	0.01	A	3.81	0.09	0.01	A	7.25	0.24	0.02	B>	0.67	-0.11	-0.01	A
19	0.00	0.00	0.00	A	5.10	-0.25	-0.01	A	32.46	-0.35	-0.02	B<	63.74	-0.87	-0.05	B<	2.49	-0.34	-0.01	A
20	2.57	-0.07	0.00	A	1.97	0.13	0.01	A	7.57	0.13	0.01	B>	8.53	0.28	0.02	B>	22.79	0.83	0.03	B>
21	0.52	0.03	0.00	A	26.53	-0.47	-0.03	B<	9.15	0.16	0.01	B>	18.76	0.45	0.03	B>	1.00	-0.17	-0.01	A
22	72.85	0.40	0.02	B>	1.60	-0.13	-0.01	A	13.84	-0.20	-0.01	B<	51.38	-0.73	-0.05	B<	6.36	-0.45	-0.02	A
23	81.42	-0.36	-0.03	B<	19.25	-0.38	-0.03	B<	71.81	-0.37	-0.03	B<	15.93	-0.37	-0.03	B<	0.07	-0.04	0.00	A
24	4.21	0.11	0.00	A	1.39	-0.14	-0.01	A	142.66	-0.73	-0.04	B<	43.40	-0.73	-0.04	B<	24.75	-0.99	-0.02	B<
25	465.54	-1.07	-0.05	B<	48.24	-0.70	-0.04	B<	69.21	-0.47	-0.03	B<	20.92	-0.49	-0.03	B<	4.82	-0.41	-0.01	A
26	12.38	-0.18	-0.01	B<	2.15	0.16	0.01	A	16.28	0.24	0.01	B>	2.45	0.18	0.01	A	0.26	0.12	0.00	A
27	47.23	0.44	0.01	B>	2.18	0.20	0.01	A	55.61	0.55	0.02	B>	9.35	0.43	0.02	B>	2.23	0.39	0.01	A
28	296.94	-0.68	-0.05	B<	21.90	-0.40	-0.03	B<	160.32	-0.56	-0.04	B<	52.03	-0.65	-0.06	B<	30.08	-0.73	-0.04	B<
29	345.35	0.75	0.06	B>	26.26	-0.44	-0.04	B<	0.04	-0.01	0.00	A	0.78	-0.08	-0.01	A	3.07	-0.24	-0.01	A
30	63.44	0.30	0.03	B>	36.83	0.52	0.04	B>	70.23	0.36	0.02	B>	7.48	0.25	0.02	B>	3.70	0.23	0.02	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

**Table 9.2.1.4 (continued)**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 5**

Item	Reference: Male N = 41604 Focal: Female N = 39508				Reference: White N = 35396 Focal: African Am. N = 4637				Reference: White N = 35396 Focal: Hispanic N = 34739				Reference: White N = 35396 Focal: Native Am. N = 4059				Reference: White N = 35396 Focal: Asian N = 2295			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	1.39	0.07	0.00	A	3.91	-0.25	-0.01	A	19.09	-0.31	-0.01	B<	27.50	-0.64	-0.03	B<	20.20	-1.00	-0.02	B<
32	455.15	-0.82	-0.07	B<	3.28	-0.16	-0.01	A	0.63	0.03	0.00	A	25.39	0.45	0.04	B>	4.69	0.30	0.02	A
33	0.89	0.04	0.00	A	0.05	0.02	0.00	A	13.41	-0.15	-0.01	B<	0.07	0.02	0.00	A	4.15	-0.26	-0.02	A
34	6.18	0.13	0.01	A	0.06	-0.03	0.00	A	9.06	-0.18	-0.01	B<	9.42	-0.35	-0.02	B<	0.49	-0.15	0.00	A
35	404.79	-0.85	-0.06	B<	21.47	-0.42	-0.03	B<	224.20	-0.72	-0.05	B<	43.85	-0.62	-0.05	B<	36.98	-0.93	-0.04	B<
36	64.41	-0.35	-0.02	B<	1.03	-0.10	-0.01	A	49.56	-0.34	-0.02	B<	0.86	-0.09	-0.01	A	0.54	0.12	0.01	A
37	10.00	-0.13	-0.01	B<	44.90	-0.61	-0.04	B<	45.04	-0.31	-0.02	B<	8.14	-0.27	-0.02	B<	1.70	-0.20	-0.01	A
38	221.87	0.70	0.04	B>	46.14	0.68	0.04	B>	327.82	0.96	0.06	B>	76.27	0.91	0.06	B>	52.31	1.45	0.05	B>
39	925.51	-1.23	-0.09	B<	24.77	-0.43	-0.03	B<	14.23	-0.17	-0.01	B<	3.73	0.18	0.01	A	2.22	0.22	0.01	A
40	17.67	-0.22	-0.01	B<	0.00	0.01	0.00	A	17.74	0.24	0.02	B>	9.73	0.35	0.02	B>	1.27	0.23	0.01	A
41	338.39	0.85	0.05	B>	4.55	0.22	0.01	A	133.26	-0.60	-0.04	B<	122.46	-1.05	-0.07	B<	32.95	-0.95	-0.03	B<
42	223.18	-0.67	-0.04	B<	17.99	0.41	0.03	B>	29.77	0.27	0.02	B>	11.03	0.33	0.03	B>	11.55	0.61	0.02	B>
43	52.66	0.34	0.02	B>	2.56	-0.16	-0.01	A	8.17	-0.15	-0.01	B<	44.58	-0.67	-0.05	B<	0.08	-0.06	0.00	A
44	1.41	0.05	0.00	A	22.67	-0.46	-0.03	B<	81.61	-0.46	-0.03	B<	48.27	-0.69	-0.05	B<	6.91	-0.45	-0.02	B<
45	126.15	0.42	0.04	B>	0.21	0.04	0.00	A	6.12	0.10	0.01	A	0.67	0.07	0.01	A	15.36	0.51	0.03	B>
46	229.30	-0.57	-0.05	B<	47.60	-0.57	-0.05	B<	528.55	-0.95	-0.08	B<	220.23	-1.27	-0.11	B<	29.71	-0.69	-0.05	B<
47	24.95	-0.19	-0.02	B<	7.45	0.23	0.02	B>	17.86	0.18	0.01	B>	5.17	0.20	0.02	A	3.42	-0.23	-0.02	A
48	35.18	0.22	0.02	B>	73.37	0.73	0.06	B>	76.37	0.37	0.03	B>	2.16	0.13	0.01	A	5.43	0.30	0.02	A
49	79.67	0.49	0.02	B>	6.58	-0.30	-0.01	A	23.21	-0.31	-0.02	B<	11.94	-0.40	-0.02	B<	5.48	-0.49	-0.01	A
50	182.41	0.60	0.04	B>	3.75	-0.19	-0.01	A	4.36	0.11	0.00	A	0.30	0.06	0.00	A	9.99	-0.51	-0.02	B<
51	361.40	-0.89	-0.05	B<	4.98	0.23	0.01	A	12.10	0.18	0.01	B>	1.79	0.14	0.01	A	2.51	0.28	0.01	A
52	7.56	0.11	0.01	B>	16.38	0.36	0.03	B>	0.16	0.02	0.00	A	28.51	-0.48	-0.04	B<	0.78	-0.12	-0.01	A
53	72.11	-0.37	-0.02	B<	52.62	-0.69	-0.05	B<	31.30	-0.27	-0.02	B<	11.74	-0.35	-0.03	B<	2.50	0.25	0.01	A
54	0.13	-0.01	0.00	A	0.22	-0.04	0.00	A	1.17	0.05	0.01	A	35.64	0.53	0.05	B>	3.83	0.26	0.02	A
55	40.34	-0.26	-0.02	B<	0.69	-0.08	-0.01	A	1.69	0.06	0.00	A	29.52	0.50	0.04	B>	8.77	0.48	0.02	B>
56	145.85	-0.67	-0.03	B<	28.50	-0.60	-0.03	B<	16.46	-0.26	-0.01	B<	0.02	0.02	0.00	A	0.82	-0.21	0.00	A
57	1.12	-0.05	0.00	A	31.31	0.59	0.03	B>	43.02	0.37	0.02	B>	16.65	0.44	0.03	B>	3.33	0.37	0.01	A
58	65.10	0.52	0.01	B>	12.26	0.46	0.02	B>	124.73	0.83	0.03	B>	29.61	0.73	0.03	B>	1.33	0.31	0.01	A
59	111.58	0.40	0.03	B>	14.98	0.33	0.03	B>	13.32	0.16	0.01	B>	3.22	-0.16	-0.01	A	16.63	0.55	0.03	B>
60	176.01	0.71	0.03	B>	4.84	0.25	0.01	A	4.64	0.13	0.01	A	13.76	0.42	0.03	B>	2.27	-0.30	-0.01	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)



**Table 9.2.1.4 (continued)**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 5**

Item	Reference: Male N = 41604 Focal: Female N = 39508				Reference: White N = 35396 Focal: African Am. N = 4637				Reference: White N = 35396 Focal: Hispanic N = 34739				Reference: White N = 35396 Focal: Native Am. N = 4059				Reference: White N = 35396 Focal: Asian N = 2295			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
61	50.82	0.32	0.02	B>	0.50	0.07	0.00	A	14.52	-0.20	-0.01	B<	0.17	-0.04	0.00	A	14.80	-0.63	-0.02	B<
62	1.92	0.05	0.01	A	5.22	0.19	0.02	A	30.17	-0.23	-0.02	B<	43.03	-0.58	-0.05	B<	35.31	-0.71	-0.05	B<
63	125.05	0.43	0.03	B>	4.56	0.18	0.01	A	15.12	0.17	0.01	B>	29.93	0.49	0.04	B>	13.05	0.50	0.03	B>
64	100.85	0.38	0.03	B>	0.95	0.09	0.00	A	31.25	0.24	0.01	B>	1.50	0.12	0.01	A	14.53	0.45	0.04	B>
65	179.03	-0.47	-0.04	B<	0.01	-0.01	0.00	A	97.31	0.39	0.04	B>	33.63	0.49	0.05	B>	0.74	0.10	0.01	A
66	186.37	0.51	0.04	B>	10.66	0.27	0.03	B>	29.03	0.23	0.02	B>	6.10	0.22	0.02	A	11.87	0.46	0.03	B>
67	61.52	0.29	0.02	B>	2.70	0.14	0.01	A	20.47	0.19	0.02	B>	18.87	0.38	0.03	B>	4.94	0.29	0.02	A
68	26.36	0.19	0.02	B>	2.07	0.12	0.01	A	0.30	0.02	0.00	A	7.75	0.25	0.02	B>	0.16	0.06	0.00	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

**Table 9.2.1.5**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 6**

Item	Reference: Male N = 41455 Focal: Female N = 39959				Reference: White N = 36561 Focal: African Am. N = 4619				Reference: White N = 36561 Focal: Hispanic N = 33677				Reference: White N = 36561 Focal: Native Am. N = 4249				Reference: White N = 36561 Focal: Asian N = 2350			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	15.81	0.24	0.01	B>	3.66	-0.24	-0.01	A	15.35	-0.27	-0.01	B<	4.82	-0.27	-0.01	A	0.15	-0.12	0.00	A
2	90.99	0.38	0.03	B>	2.07	0.12	0.01	A	22.56	0.21	0.01	B>	0.15	0.04	0.00	A	32.75	0.85	0.04	B>
3	84.66	0.32	0.03	B>	10.80	0.26	0.02	B>	82.96	0.36	0.03	B>	25.51	0.42	0.04	B>	14.14	0.41	0.04	B>
4	0.02	0.01	0.00	A	70.44	0.78	0.06	B>	138.44	0.57	0.04	B>	18.30	0.40	0.03	B>	13.14	0.59	0.02	B>
5	141.68	0.84	0.02	B>	18.58	-0.61	-0.02	B<	17.78	-0.34	-0.01	B<	3.43	0.27	0.01	A	2.81	-0.52	-0.01	A
6	0.63	-0.05	0.00	A	14.05	-0.51	-0.02	B<	31.24	-0.43	-0.01	B<	1.38	-0.17	-0.01	A	4.27	-0.55	-0.01	A
7	53.98	-0.30	-0.02	B<	133.04	-1.02	-0.08	B<	311.55	-0.79	-0.07	B<	225.41	-1.40	-0.11	B<	104.36	-1.33	-0.08	B<
8	214.89	-0.60	-0.04	B<	0.53	0.07	0.01	A	33.46	-0.26	-0.02	B<	9.37	-0.28	-0.02	B<	6.38	0.39	0.02	A
9	83.27	0.48	0.02	B>	11.75	0.39	0.02	B>	23.29	-0.29	-0.01	B<	22.57	-0.51	-0.03	B<	5.22	0.53	0.01	A
10	70.57	-0.35	-0.02	B<	31.16	-0.49	-0.04	B<	23.24	-0.22	-0.01	B<	0.23	-0.04	0.00	A	21.11	-0.66	-0.03	B<
11	11.39	0.16	0.01	B>	8.21	0.29	0.02	B>	3.37	-0.10	0.00	A	4.40	-0.21	-0.01	A	0.03	-0.04	0.00	A
12	0.65	-0.03	0.00	A	2.24	-0.12	-0.01	A	2.75	0.07	0.00	A	1.39	0.10	0.01	A	1.40	-0.14	-0.01	A
13	80.78	-0.38	-0.03	B<	1.27	-0.11	-0.01	A	12.47	-0.17	-0.01	B<	0.00	0.01	0.00	A	0.58	-0.12	-0.01	A
14	1.82	-0.05	0.00	A	21.59	-0.40	-0.03	B<	5.35	-0.10	-0.01	A	5.74	-0.22	-0.02	A	1.32	-0.17	-0.01	A
15	0.03	-0.01	0.00	A	0.18	-0.05	0.00	A	10.85	0.19	0.01	B>	0.13	0.04	0.00	A	2.40	-0.29	-0.01	A
16	14.01	0.14	0.01	B>	0.00	0.00	0.00	A	12.21	0.15	0.01	B>	0.52	0.06	0.01	A	0.68	-0.10	-0.01	A
17	42.84	0.27	0.02	B>	27.87	0.47	0.04	B>	41.92	0.30	0.02	B>	27.41	-0.48	-0.04	B<	12.94	0.57	0.03	B>
18	8.51	-0.12	-0.01	B<	3.97	-0.17	-0.01	A	8.21	-0.13	-0.02	B<	40.75	-0.58	-0.05	B<	0.08	0.04	0.00	A
19	36.63	0.25	0.02	B>	3.03	-0.15	-0.01	A	7.67	-0.13	-0.01	B<	0.01	-0.01	0.00	A	0.42	0.10	0.00	A
20	68.53	0.31	0.03	B>	10.65	-0.27	-0.02	B<	47.27	-0.29	-0.02	B<	32.08	-0.49	-0.04	B<	14.33	-0.47	-0.03	B<
21	70.89	0.42	0.02	B>	4.22	0.22	0.01	A	10.55	0.18	0.01	B>	5.66	-0.25	-0.02	A	7.46	0.58	0.01	B>
22	0.27	-0.04	0.00	A	5.23	-0.36	-0.01	A	1.98	0.13	0.00	A	11.84	0.58	0.02	B>	5.86	-0.73	-0.01	A
23	45.24	-0.39	-0.01	B<	8.43	-0.35	-0.02	B<	0.00	0.00	0.00	A	11.35	0.43	0.02	B>	0.53	-0.17	0.00	A
24	2.97	0.07	0.01	A	0.38	-0.06	-0.01	A	2.47	0.07	0.00	A	1.36	-0.11	-0.01	A	11.91	-0.48	-0.03	B<
25	38.41	-0.24	-0.02	B<	0.09	0.03	0.00	A	0.87	-0.04	0.00	A	0.36	0.05	0.01	A	1.34	0.17	0.01	A
26	6.31	-0.12	-0.01	A	0.25	-0.05	0.00	A	1.25	-0.06	-0.01	A	10.57	-0.33	-0.02	B<	21.32	-0.69	-0.03	B<
27	97.16	0.45	0.02	B>	1.10	-0.10	-0.01	A	93.17	0.50	0.03	B>	19.96	0.44	0.03	B>	4.17	0.38	0.01	A
28	47.29	-0.29	-0.02	B<	13.85	-0.33	-0.03	B<	112.36	0.51	0.04	B>	70.96	0.82	0.06	B>	0.00	-0.01	0.00	A
29	186.25	0.50	0.04	B>	5.89	0.20	0.02	A	50.93	0.29	0.02	B>	0.15	-0.03	0.00	A	37.83	0.78	0.05	B>
30	4.78	-0.11	-0.01	A	74.37	0.90	0.05	B>	240.99	0.84	0.05	B>	44.64	0.69	0.05	B>	15.66	0.78	0.02	B>

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

**Table 9.2.1.5 (continued)**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 6**

Item	Reference: Male N = 41455 Focal: Female N = 39959				Reference: White N = 36561 Focal: African Am. N = 4619				Reference: White N = 36561 Focal: Hispanic N = 33677				Reference: White N = 36561 Focal: Native Am. N = 4249				Reference: White N = 36561 Focal: Asian N = 2350			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	10.12	0.14	0.01	B>	4.32	0.20	0.01	A	3.37	-0.09	-0.01	A	0.57	-0.08	-0.01	A	5.93	-0.36	-0.02	A
32	120.78	0.43	0.03	B>	14.91	0.34	0.03	B>	130.66	-0.50	-0.04	B<	32.31	-0.50	-0.04	B<	19.76	-0.58	-0.03	B<
33	29.33	-0.25	-0.01	B<	0.04	-0.02	0.00	A	43.75	0.35	0.02	B>	19.29	0.45	0.03	B>	4.96	0.42	0.01	A
34	7.49	-0.11	-0.01	B<	2.14	0.13	0.01	A	11.74	0.16	0.01	B>	8.29	0.26	0.02	B>	2.42	0.23	0.01	A
35	156.80	0.53	0.03	B>	24.32	0.45	0.03	B>	75.26	0.41	0.03	B>	5.35	0.21	0.02	A	5.15	0.36	0.02	A
36	305.76	-0.64	-0.06	B<	1.34	-0.10	-0.01	A	9.31	-0.12	0.00	B<	13.63	0.31	0.03	B>	4.32	-0.25	-0.02	A
37	115.87	-0.45	-0.03	B<	19.73	-0.40	-0.03	B<	114.86	-0.50	-0.04	B<	18.67	-0.40	-0.03	B<	25.34	-0.72	-0.03	B<
38	42.73	0.29	0.02	B>	4.47	-0.21	-0.01	A	33.94	-0.30	-0.02	B<	1.47	-0.12	-0.01	A	0.04	-0.04	0.00	A
39	1.33	-0.05	0.00	A	3.22	-0.16	-0.01	A	7.27	-0.12	-0.01	B<	19.75	-0.40	-0.04	B<	1.19	0.16	0.01	A
40	2.92	-0.08	0.00	A	14.01	0.37	0.02	B>	55.76	0.39	0.02	B>	44.27	0.67	0.05	B>	14.80	0.70	0.02	B>
41	108.79	-0.45	-0.03	B<	0.02	-0.01	0.00	A	1.06	0.05	0.00	A	0.04	0.02	0.00	A	1.01	0.17	0.01	A
42	6.71	-0.10	-0.01	B<	20.57	0.38	0.03	B>	2.14	0.06	0.01	A	0.20	-0.04	0.00	A	1.21	0.14	0.01	A
43	632.47	-0.93	-0.08	B<	4.87	-0.18	-0.02	A	66.63	-0.33	-0.03	B<	18.23	-0.37	-0.03	B<	8.01	-0.33	-0.03	B<
44	37.50	0.28	0.02	B>	12.57	0.35	0.02	B>	0.02	-0.01	0.00	A	1.05	-0.10	-0.01	A	3.17	0.33	0.01	A
45	81.00	0.33	0.03	B>	9.96	-0.27	-0.02	B<	150.12	-0.51	-0.04	B<	7.47	-0.24	-0.02	B<	20.13	-0.52	-0.04	B<
46	0.05	0.01	0.00	A	43.19	0.72	0.04	B>	94.56	0.56	0.03	B>	14.60	0.41	0.03	B>	6.64	0.54	0.01	B>
47	58.88	-0.30	-0.02	B<	0.00	0.00	0.00	A	53.90	0.32	0.02	B>	11.52	0.30	0.02	B>	0.01	-0.01	0.00	A
48	168.75	0.49	0.04	B>	20.69	0.38	0.03	B>	0.01	0.00	0.00	A	0.13	0.03	0.00	A	3.48	0.23	0.02	A
49	63.66	0.43	0.02	B>	0.48	0.08	0.00	A	47.41	0.42	0.02	B>	31.66	0.66	0.04	B>	1.43	-0.26	-0.01	A
50	306.84	0.63	0.06	B>	3.31	0.15	0.01	A	2.71	0.07	0.00	A	3.49	-0.16	-0.02	A	4.81	-0.25	-0.02	A
51	137.20	-0.48	-0.03	B<	0.56	-0.07	-0.01	A	13.94	-0.17	-0.01	B<	6.90	0.24	0.02	B>	0.01	0.02	0.00	A
52	46.34	-0.25	-0.02	B<	0.25	0.04	0.00	A	33.60	-0.24	-0.02	B<	44.58	-0.57	-0.05	B<	0.38	0.08	0.01	A
53	409.40	-0.80	-0.06	B<	27.16	-0.44	-0.04	B<	3.10	0.08	0.01	A	55.01	0.66	0.06	B>	0.24	-0.07	0.00	A
54	648.17	1.01	0.08	B>	0.06	0.02	0.00	A	4.69	-0.10	-0.01	A	2.49	-0.14	-0.01	A	0.49	-0.10	-0.01	A
55	4.94	-0.08	-0.01	A	2.22	-0.12	-0.01	A	14.90	0.16	0.02	B>	55.63	0.63	0.06	B>	0.72	0.11	0.01	A
56	66.10	0.37	0.02	B>	3.13	0.17	0.01	A	4.30	-0.11	0.00	A	1.86	-0.13	-0.01	A	3.20	0.33	0.01	A
57	58.31	0.31	0.02	B>	57.27	0.68	0.05	B>	144.33	0.55	0.04	B>	34.07	0.53	0.04	B>	56.95	1.18	0.06	B>
58	5.09	0.12	0.00	A	47.49	0.78	0.04	B>	104.93	0.63	0.03	B>	19.09	0.50	0.03	B>	30.21	1.39	0.03	B>
59	386.48	-0.76	-0.06	B<	3.54	-0.16	-0.01	A	57.29	-0.33	-0.03	B<	98.59	-0.88	-0.07	B<	73.57	-1.05	-0.07	B<
60	122.96	-0.43	-0.03	B<	4.99	-0.19	-0.01	A	0.00	0.00	0.00	A	34.96	0.52	0.05	B>	0.09	0.04	0.00	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

**Table 9.2.1.5 (continued)**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 6**

Item	Reference: Male N = 41455 Focal: Female N = 39959				Reference: White N = 36561 Focal: African Am. N = 4619				Reference: White N = 36561 Focal: Hispanic N = 33677				Reference: White N = 36561 Focal: Native Am. N = 4249				Reference: White N = 36561 Focal: Asian N = 2350			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
61	426.21	0.81	0.06	B>	7.85	0.24	0.02	B>	0.02	0.01	0.00	A	10.96	0.29	0.03	B>	7.00	0.38	0.02	B>
62	93.96	-0.39	-0.03	B<	19.21	-0.39	-0.03	B<	16.47	-0.18	-0.02	B<	0.32	-0.05	-0.01	A	29.06	0.71	0.05	B>
63	88.48	-0.43	-0.02	B<	14.24	-0.36	-0.03	B<	2.44	0.08	0.00	A	18.77	0.43	0.03	B>	1.76	0.23	0.01	A
64	3.08	0.07	0.01	A	0.10	-0.03	0.00	A	0.07	0.01	0.00	A	10.30	0.30	0.02	B>	9.76	0.50	0.02	B>
65	158.45	-0.48	-0.04	B<	1.96	-0.12	-0.01	A	35.63	-0.25	-0.02	B<	20.91	-0.41	-0.03	B<	0.32	0.08	0.01	A
66	13.26	0.16	0.01	B>	3.04	-0.16	-0.01	A	5.63	0.12	0.01	A	0.05	0.02	0.00	A	15.83	-0.57	-0.03	B<
67	60.94	0.38	0.02	B>	0.48	-0.07	0.00	A	1.73	-0.07	0.00	A	0.07	0.03	0.00	A	0.23	-0.10	0.00	A
68	0.00	0.00	0.00	A	21.16	-0.38	-0.03	B<	81.10	-0.37	-0.03	B<	57.81	-0.65	-0.06	B<	24.31	-0.58	-0.04	B<

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

**Table 9.2.1.6**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 7**

Item	Reference: Male N = 41253 Focal: Female N = 39392				Reference: White N = 36592 Focal: African Am. N = 4532				Reference: White N = 36592 Focal: Hispanic N = 32912				Reference: White N = 36592 Focal: Native Am. N = 4231				Reference: White N = 36592 Focal: Asian N = 2386			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	296.07	-0.77	-0.04	B<	77.77	-0.85	-0.06	B<	726.54	-1.36	-0.09	B<	289.91	-1.60	-0.12	C<	65.70	-1.30	-0.05	B<
2	126.88	-0.41	-0.04	B<	32.85	-0.47	-0.04	B<	207.61	-0.58	-0.06	B<	149.94	-1.04	-0.10	B<	2.75	-0.20	-0.01	A
3	142.05	-0.46	-0.04	B<	84.78	-0.76	-0.07	B<	13.59	-0.16	-0.01	B<	204.67	-1.19	-0.11	B<	14.58	-0.50	-0.03	B<
4	11.24	0.16	0.01	B>	3.88	0.20	0.01	A	15.49	0.21	0.01	B>	0.19	0.05	0.00	A	12.97	0.66	0.02	B>
5	2.73	0.07	0.00	A	7.17	-0.25	-0.02	B<	0.88	-0.05	0.00	A	1.86	0.13	0.01	A	21.48	-0.67	-0.03	B<
6	15.72	0.17	0.01	B>	2.50	-0.14	-0.01	A	90.76	0.46	0.03	B>	31.27	0.53	0.04	B>	2.50	0.25	0.01	A
7	262.93	-0.90	-0.03	B<	22.66	-0.56	-0.03	B<	139.48	-0.75	-0.04	B<	1.76	-0.16	-0.01	A	12.50	-0.73	-0.02	B<
8	24.36	-0.20	-0.01	B<	0.83	0.08	0.01	A	76.48	0.40	0.03	B>	15.26	0.35	0.03	B>	8.03	0.41	0.02	B>
9	266.94	-0.63	-0.05	B<	7.90	-0.24	-0.02	B<	5.19	-0.10	-0.01	A	35.19	-0.52	-0.05	B<	3.40	-0.25	-0.01	A
10	26.22	-0.24	-0.01	B<	1.10	-0.11	-0.01	A	17.34	-0.22	-0.01	B<	1.14	-0.11	-0.01	A	6.68	-0.45	-0.02	B<
11	12.37	0.19	0.01	B>	0.20	0.05	0.00	A	88.49	-0.57	-0.03	B<	45.81	-0.74	-0.04	B<	41.95	-1.16	-0.03	B<
12	390.65	0.72	0.06	B>	33.91	0.48	0.04	B>	48.11	0.28	0.03	B>	8.48	0.25	0.02	B>	0.04	0.02	0.00	A
13	43.88	-0.27	-0.02	B<	23.65	-0.42	-0.03	B<	1.97	0.06	0.01	A	32.78	0.53	0.04	B>	0.03	0.03	0.00	A
14	8.91	-0.11	-0.01	B<	6.40	-0.21	-0.02	A	1.47	0.05	0.00	A	3.45	0.16	0.01	A	0.00	-0.01	0.00	A
15	68.88	0.41	0.02	B>	8.27	0.31	0.02	B>	20.11	0.25	0.01	B>	2.25	0.16	0.01	A	0.39	-0.12	0.00	A
16	76.50	0.39	0.02	B>	1.46	-0.12	-0.01	A	72.81	-0.43	-0.03	B<	144.77	-1.11	-0.08	B<	20.89	-0.71	-0.03	B<
17	0.01	0.00	0.00	A	0.74	-0.08	-0.01	A	6.69	-0.11	-0.01	B<	0.04	-0.02	0.00	A	0.47	-0.08	-0.01	A
18	898.10	-1.13	-0.10	B<	44.98	-0.56	-0.05	B<	298.54	-0.72	-0.06	B<	77.04	-0.75	-0.07	B<	41.75	-0.78	-0.06	B<
19	15.55	-0.22	-0.01	B<	4.29	-0.24	-0.01	A	0.27	0.03	0.00	A	5.81	0.29	0.01	A	1.20	-0.25	-0.01	A
20	1.16	-0.05	0.00	A	9.39	0.28	0.02	B>	17.63	-0.20	-0.01	B<	12.44	-0.33	-0.03	B<	1.30	-0.17	-0.01	A
21	1.19	-0.04	0.00	A	0.06	0.02	0.00	A	10.82	-0.14	-0.01	B<	9.99	0.27	0.03	B>	3.43	-0.24	-0.02	A
22	13.28	-0.15	-0.01	B<	0.77	0.08	0.01	A	30.48	-0.25	-0.02	B<	30.29	-0.52	-0.04	B<	3.10	-0.24	-0.01	A
23	817.93	-1.32	-0.07	B<	40.67	-0.62	-0.04	B<	9.28	-0.16	-0.02	B<	20.34	-0.45	-0.03	B<	10.28	-0.49	-0.02	B<
24	129.95	0.47	0.03	B>	30.97	0.51	0.04	B>	91.56	0.44	0.03	B>	97.02	0.92	0.07	B>	14.11	0.56	0.03	B>
25	3.97	0.09	0.00	A	0.00	-0.01	0.00	A	32.30	-0.30	-0.02	B<	76.25	-0.83	-0.06	B<	10.10	-0.53	-0.02	B<
26	237.40	0.80	0.03	B>	0.48	0.08	0.00	A	4.12	-0.12	-0.01	A	36.38	-0.64	-0.04	B<	2.58	-0.31	-0.01	A
27	49.03	-0.29	-0.02	B<	51.76	-0.63	-0.05	B<	138.03	-0.53	-0.04	B<	20.70	-0.41	-0.03	B<	0.71	0.13	0.01	A
28	316.44	0.79	0.05	B>	4.20	0.20	0.01	A	38.52	-0.31	-0.02	B<	45.68	-0.63	-0.05	B<	6.25	-0.38	-0.02	A
29	72.54	0.40	0.02	B>	64.16	0.82	0.05	B>	0.19	0.02	0.00	A	24.62	-0.49	-0.03	B<	16.19	0.77	0.02	B>
30	30.18	-0.23	-0.02	B<	27.21	0.47	0.04	B>	6.03	0.11	0.01	A	0.67	0.08	0.01	A	11.99	0.55	0.02	B>

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

**Table 9.2.1.6 (continued)**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 7**

Item	Reference: Male N = 41253 Focal: Female N = 39392				Reference: White N = 36592 Focal: African Am. N = 4532				Reference: White N = 36592 Focal: Hispanic N = 32912				Reference: White N = 36592 Focal: Native Am. N = 4231				Reference: White N = 36592 Focal: Asian N = 2386			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	39.19	0.28	0.02	B>	7.79	0.28	0.02	B>	1.97	0.07	0.01	A	3.39	0.18	0.01	A	1.15	0.19	0.01	A
32	4.00	-0.12	0.00	A	0.15	0.05	0.00	A	40.53	0.42	0.02	B>	37.40	0.78	0.04	B>	6.63	0.66	0.01	A
33	90.99	-0.46	-0.02	B<	0.97	0.10	0.01	A	3.38	0.10	0.01	A	0.45	0.07	0.01	A	0.45	0.13	0.00	A
34	34.54	0.24	0.02	B>	16.72	0.37	0.03	B>	186.60	0.64	0.05	B>	35.10	0.54	0.04	B>	21.37	0.68	0.03	B>
35	52.66	-0.32	-0.02	B<	3.34	-0.17	-0.01	A	42.90	-0.32	-0.02	B<	0.75	-0.08	0.00	A	4.00	-0.32	-0.01	A
36	55.80	0.40	0.02	B>	0.03	0.02	0.00	A	28.71	-0.33	-0.02	B<	9.28	-0.34	-0.02	B<	1.09	-0.23	-0.01	A
37	66.10	0.36	0.02	B>	9.89	0.30	0.02	B>	7.50	0.14	0.01	B>	1.74	0.13	0.01	A	2.67	0.27	0.01	A
38	41.12	-0.25	-0.02	B<	37.06	0.54	0.04	B>	110.33	0.46	0.03	B>	20.97	0.43	0.03	B>	32.75	0.68	0.05	B>
39	372.02	0.86	0.05	B>	1.02	0.10	0.01	A	22.33	-0.24	-0.02	B<	14.81	-0.36	-0.03	B<	8.75	0.53	0.02	B>
40	227.35	0.58	0.05	B>	0.24	0.04	0.00	A	213.65	0.64	0.05	B>	75.24	0.77	0.07	B>	3.42	0.25	0.02	A
41	51.79	0.29	0.02	B>	3.49	0.16	0.01	A	12.09	0.15	0.01	B>	7.54	0.25	0.02	B>	25.59	0.72	0.04	B>
42	39.08	0.24	0.02	B>	18.98	0.38	0.03	B>	18.47	0.18	0.01	B>	1.89	0.13	0.01	A	30.00	0.68	0.05	B>
43	199.17	-0.67	-0.03	B<	40.95	-0.63	-0.04	B<	15.45	-0.21	-0.01	B<	1.26	-0.11	-0.01	A	0.01	0.03	0.00	A
44	228.63	-0.56	-0.05	B<	4.53	-0.19	-0.01	A	1.79	0.06	0.01	A	42.50	0.58	0.05	B>	7.59	-0.31	-0.03	B<
45	109.62	-0.37	-0.03	B<	3.15	-0.14	-0.01	A	17.87	0.17	0.01	B>	3.13	0.15	0.01	A	38.07	-0.69	-0.06	B<
46	403.56	0.77	0.06	B>	11.24	0.29	0.02	B>	25.98	0.22	0.01	B>	3.42	0.16	0.01	A	2.09	-0.18	-0.01	A
47	82.78	0.39	0.02	B>	0.36	0.06	0.01	A	11.76	0.17	0.01	B>	1.33	0.11	0.01	A	0.24	0.08	0.00	A
48	95.20	-0.39	-0.03	B<	0.78	-0.08	-0.01	A	0.54	-0.03	0.00	A	82.78	0.84	0.07	B>	2.03	-0.20	-0.01	A
49	10.01	0.20	0.01	B>	26.90	0.68	0.03	B>	88.62	0.66	0.03	B>	28.84	0.70	0.03	B>	17.09	1.19	0.02	B>
50	45.56	0.32	0.02	B>	24.44	0.51	0.03	B>	11.86	0.18	0.01	B>	0.24	0.05	0.00	A	13.46	0.69	0.02	B>
51	12.65	0.13	0.01	B>	1.34	0.10	0.01	A	5.15	-0.10	-0.01	A	3.47	0.16	0.02	A	16.85	0.51	0.04	B>
52	32.46	-0.24	-0.02	B<	9.69	-0.28	-0.02	B<	255.62	-0.73	-0.05	B<	103.60	-0.91	-0.07	B<	3.48	0.30	0.01	A
53	46.88	0.39	0.01	B>	19.69	0.54	0.03	B>	8.78	0.19	0.01	B>	0.14	0.05	0.00	A	0.02	0.04	0.00	A
54	692.22	-0.98	-0.08	B<	3.23	-0.15	-0.01	A	3.95	-0.08	-0.01	A	0.88	-0.08	-0.01	A	0.56	0.09	0.01	A
55	76.18	0.42	0.02	B>	10.23	0.34	0.02	B>	5.92	-0.13	-0.01	A	1.19	-0.11	-0.01	A	0.83	0.17	0.01	A
56	42.52	0.41	0.01	B>	0.19	-0.06	0.00	A	164.53	0.91	0.04	B>	69.76	1.15	0.05	B>	1.35	0.29	0.01	A
57	15.95	0.22	0.01	B>	0.66	0.10	0.00	A	12.48	-0.22	-0.01	B<	8.91	-0.33	-0.02	B<	0.00	-0.02	0.00	A
58	4.31	0.09	0.00	A	0.07	0.03	0.00	A	7.78	-0.14	0.00	B<	12.45	0.35	0.03	B>	8.18	-0.43	-0.02	B<
59	44.48	-0.24	-0.02	B<	2.77	-0.13	-0.01	A	76.96	-0.35	-0.03	B<	30.38	-0.46	-0.04	B<	13.07	-0.40	-0.03	B<
60	1.32	0.04	0.00	A	17.24	0.33	0.03	B>	5.15	0.09	0.01	A	1.21	0.09	0.01	A	7.90	0.33	0.03	B>

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

**Table 9.2.1.6 (continued)**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 7**

Item	Reference: Male N = 41253 Focal: Female N = 39392				Reference: White N = 36592 Focal: African Am. N = 4532				Reference: White N = 36592 Focal: Hispanic N = 32912				Reference: White N = 36592 Focal: Native Am. N = 4231				Reference: White N = 36592 Focal: Asian N = 2386			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
61	39.14	0.31	0.01	B>	1.17	-0.11	-0.01	A	165.97	0.72	0.04	B>	21.55	0.49	0.03	B>	0.06	0.05	0.00	A
62	24.22	0.20	0.01	B>	6.44	-0.23	-0.02	A	14.45	-0.18	-0.01	B<	0.00	0.00	0.00	A	13.47	-0.52	-0.03	B<
63	88.61	0.35	0.03	B>	6.91	-0.21	-0.02	B<	131.21	0.48	0.04	B>	150.93	1.08	0.10	B>	0.26	0.07	0.00	A
64	3.11	0.08	0.01	A	2.94	0.16	0.01	A	0.74	-0.04	-0.01	A	21.88	-0.44	-0.04	B<	5.26	0.35	0.02	A
65	309.58	0.98	0.04	B>	0.52	0.08	0.00	A	53.67	0.46	0.02	B>	61.70	0.93	0.05	B>	2.45	0.34	0.01	A
66	18.54	0.21	0.01	B>	1.30	0.12	0.01	A	48.96	0.39	0.02	B>	23.83	0.51	0.03	B>	6.39	0.48	0.01	A
67	20.11	-0.23	-0.01	B<	0.03	-0.02	0.00	A	26.99	0.30	0.01	B>	14.50	0.43	0.02	B>	4.53	0.43	0.01	A
68	192.40	0.50	0.05	B>	7.31	0.22	0.02	B>	188.38	0.56	0.05	B>	111.92	0.89	0.08	B>	16.60	0.46	0.04	B>

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

**Table 9.2.1.7**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 8**

Item	Reference: Male N = 40900 Focal: Female N = 39439				Reference: White N = 36668 Focal: African Am. N = 4590				Reference: White N = 36668 Focal: Hispanic N = 32497				Reference: White N = 36668 Focal: Native Am. N = 4373				Reference: White N = 36668 Focal: Asian N = 2236			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	3.69	-0.07	-0.01	A	60.55	-0.65	-0.05	B<	182.28	-0.57	-0.05	B<	0.42	-0.06	0.00	A	7.95	-0.36	-0.02	B<
2	537.85	-0.90	-0.07	B<	0.61	-0.07	-0.01	A	6.81	0.11	0.01	B>	22.58	0.40	0.04	B>	1.10	0.15	0.01	A
3	59.11	-0.47	-0.02	B<	0.32	-0.08	0.00	A	81.28	-0.65	-0.03	B<	14.35	-0.48	-0.02	B<	9.42	-0.75	-0.01	B<
4	16.09	-0.17	-0.01	B<	3.00	-0.16	-0.01	A	92.49	-0.45	-0.04	B<	44.82	-0.60	-0.05	B<	8.77	-0.46	-0.02	B<
5	156.09	0.47	0.04	B>	6.49	0.21	0.02	A	24.24	0.21	0.02	B>	17.93	0.36	0.03	B>	26.25	0.68	0.05	B>
6	49.50	0.27	0.02	B>	16.35	0.35	0.03	B>	1.97	0.06	0.00	A	17.72	-0.39	-0.03	B<	14.10	0.45	0.04	B>
7	0.23	-0.02	0.00	A	1.43	0.11	0.01	A	0.41	0.03	0.00	A	1.39	-0.11	-0.01	A	15.14	0.49	0.04	B>
8	361.24	-0.73	-0.06	B<	31.07	-0.47	-0.04	B<	16.59	-0.18	-0.02	B<	0.51	-0.06	-0.01	A	6.94	-0.36	-0.02	B<
9	13.99	-0.15	-0.01	B<	3.00	0.15	0.01	A	0.84	0.04	0.00	A	0.25	-0.04	0.00	A	53.40	1.15	0.06	B>
10	48.74	-0.29	-0.02	B<	4.24	0.19	0.02	A	8.09	-0.13	-0.01	B<	1.49	-0.11	-0.01	A	0.48	-0.11	-0.01	A
11	0.16	-0.02	0.00	A	1.39	0.10	0.01	A	18.38	-0.18	-0.02	B<	24.54	-0.44	-0.03	B<	8.58	0.39	0.03	B>
12	89.47	0.38	0.03	B>	1.56	0.11	0.01	A	8.08	-0.13	-0.01	B<	72.43	-0.74	-0.06	B<	0.81	0.13	0.01	A
13	0.32	-0.03	0.00	A	0.00	0.00	0.00	A	56.17	0.39	0.03	B>	1.65	0.13	0.01	A	1.59	0.23	0.01	A
14	176.83	0.63	0.03	B>	3.70	0.20	0.01	A	7.09	-0.14	-0.01	B<	7.06	-0.26	-0.02	B<	5.16	-0.39	-0.01	A
15	176.91	-0.49	-0.04	B<	3.28	-0.15	-0.01	A	55.76	0.31	0.03	B>	46.54	0.58	0.05	B>	0.44	0.09	0.01	A
16	446.26	-1.00	-0.05	B<	36.52	-0.58	-0.04	B<	111.58	-0.56	-0.03	B<	1.86	0.14	0.01	A	13.08	-0.62	-0.02	B<
17	11.86	0.14	0.01	B>	3.21	-0.16	-0.01	A	71.38	-0.38	-0.03	B<	43.16	-0.57	-0.05	B<	6.33	-0.35	-0.02	A
18	69.02	-0.32	-0.03	B<	2.24	0.13	0.01	A	12.71	0.15	0.01	B>	4.06	0.18	0.01	A	4.00	0.27	0.02	A
19	85.91	0.41	0.03	B>	0.21	0.05	0.00	A	3.36	-0.09	-0.01	A	11.05	-0.31	-0.02	B<	0.57	-0.13	-0.01	A
20	95.25	0.45	0.03	B>	31.81	0.56	0.04	B>	33.75	0.30	0.02	B>	1.71	0.13	0.01	A	17.12	0.77	0.03	B>
21	114.51	-0.47	-0.03	B<	56.15	-0.68	-0.05	B<	0.58	-0.04	0.00	A	50.32	0.68	0.05	B>	0.46	-0.11	0.00	A
22	3.37	0.08	0.00	A	27.55	-0.50	-0.03	B<	10.28	0.17	0.01	B>	29.51	0.55	0.04	B>	0.02	0.03	0.00	A
23	244.61	0.75	0.04	B>	6.36	0.26	0.02	A	1.23	-0.06	-0.01	A	0.28	-0.06	0.00	A	1.86	0.27	0.01	A
24	112.67	0.50	0.03	B>	0.09	0.03	0.00	A	21.45	-0.24	-0.02	B<	40.10	-0.61	-0.04	B<	0.23	0.09	0.00	A
25	6.04	0.09	0.01	A	8.90	0.25	0.02	B>	5.97	-0.11	-0.01	A	4.00	-0.17	-0.01	A	1.44	-0.16	-0.01	A
26	358.03	-0.85	-0.05	B<	30.21	-0.52	-0.04	B<	103.17	-0.51	-0.04	B<	33.49	-0.54	-0.04	B<	27.93	-0.89	-0.03	B<
27	1.68	0.06	0.00	A	2.56	-0.15	-0.01	A	0.58	0.04	0.00	A	4.71	-0.20	-0.02	A	2.74	-0.26	-0.01	A
28	48.02	0.39	0.01	B>	5.53	0.28	0.01	A	43.96	0.42	0.02	B>	9.02	0.36	0.02	B>	2.73	0.39	0.01	A
29	64.89	0.29	0.03	B>	75.35	0.72	0.06	B>	243.39	0.65	0.06	B>	89.77	0.80	0.07	B>	1.31	0.14	0.01	A
30	227.53	-0.59	-0.05	B<	28.76	-0.49	-0.04	B<	43.55	-0.29	-0.02	B<	6.71	-0.25	-0.02	B<	1.39	-0.15	-0.01	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)



**Table 9.2.1.7 (continued)**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 8**

Item	Reference: Male N = 40900 Focal: Female N = 39439				Reference: White N = 36668 Focal: African Am. N = 4590				Reference: White N = 36668 Focal: Hispanic N = 32497				Reference: White N = 36668 Focal: Native Am. N = 4373				Reference: White N = 36668 Focal: Asian N = 2236			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	25.47	0.18	0.02	B>	34.34	0.46	0.05	B>	50.25	0.28	0.03	B>	8.44	0.24	0.02	B>	4.62	0.24	0.02	A
32	0.44	-0.03	0.00	A	5.21	-0.22	-0.02	A	2.88	0.09	0.00	A	3.80	-0.19	-0.01	A	0.14	-0.07	0.00	A
33	0.42	0.02	0.00	A	0.72	-0.07	-0.01	A	0.52	0.03	0.00	A	2.47	0.13	0.01	A	2.01	0.18	0.01	A
34	2.96	0.08	0.00	A	24.12	0.49	0.03	B>	16.31	0.21	0.01	B>	6.30	0.25	0.02	A	2.72	0.29	0.01	A
35	0.11	-0.01	0.00	A	1.67	-0.11	-0.01	A	10.70	-0.14	-0.01	B<	0.14	0.04	0.00	A	28.04	-0.61	-0.05	B<
36	242.66	-0.62	-0.05	B<	29.86	-0.51	-0.04	B<	123.66	-0.50	-0.03	B<	24.86	-0.49	-0.03	B<	63.39	-0.98	-0.07	B<
37	42.58	0.27	0.02	B>	0.55	0.07	0.01	A	35.68	0.29	0.02	B>	8.36	0.27	0.02	B>	5.47	-0.33	-0.02	A
38	111.88	-0.41	-0.03	B<	15.35	-0.34	-0.03	B<	7.59	-0.12	-0.01	B<	9.97	0.28	0.02	B>	8.36	-0.37	-0.02	B<
39	27.85	-0.21	-0.02	B<	0.13	-0.03	0.00	A	107.72	-0.47	-0.03	B<	7.12	0.25	0.02	B>	4.78	-0.31	-0.02	A
40	265.39	0.87	0.04	B>	6.62	0.29	0.02	A	38.34	0.37	0.02	B>	29.99	0.62	0.03	B>	29.77	1.37	0.03	B>
41	141.77	0.51	0.03	B>	18.74	0.40	0.03	B>	437.18	1.03	0.07	B>	0.75	0.08	0.01	A	22.19	0.76	0.04	B>
42	98.34	0.37	0.03	B>	9.32	0.26	0.02	B>	110.28	0.45	0.04	B>	23.23	0.42	0.03	B>	9.72	0.39	0.03	B>
43	254.34	-1.02	-0.03	B<	51.65	-0.89	-0.03	B<	31.14	-0.42	-0.02	B<	46.73	-0.86	-0.04	B<	16.26	-0.95	-0.02	B<
44	25.10	0.19	0.02	B>	2.22	0.12	0.01	A	0.02	-0.01	0.00	A	8.62	-0.24	-0.02	B<	2.24	0.20	0.01	A
45	398.02	-0.79	-0.06	B<	152.62	-1.06	-0.09	B<	234.96	-0.67	-0.05	B<	41.46	-0.56	-0.05	B<	17.97	-0.59	-0.03	B<
46	11.61	-0.16	-0.01	B<	0.93	0.10	0.00	A	8.85	-0.15	-0.01	B<	25.22	-0.48	-0.03	B<	7.01	0.50	0.02	B>
47	49.28	0.28	0.02	B>	25.50	0.47	0.03	B>	44.69	-0.31	-0.03	B<	155.35	-1.08	-0.09	B<	26.78	-0.69	-0.04	B<
48	6.79	-0.10	-0.01	B<	0.01	0.01	0.00	A	100.61	0.45	0.04	B>	21.93	0.41	0.04	B>	0.97	-0.14	-0.01	A
49	332.23	0.74	0.06	B>	27.64	0.47	0.04	B>	0.01	0.00	0.00	A	0.14	0.03	0.00	A	4.51	0.31	0.02	A
50	130.92	0.55	0.03	B>	9.64	0.31	0.02	B>	91.77	0.52	0.03	B>	0.73	0.09	0.01	A	1.58	0.24	0.01	A
51	31.43	-0.22	-0.02	B<	0.18	0.04	0.00	A	6.76	-0.11	-0.01	B<	0.60	0.07	0.01	A	0.09	-0.05	0.00	A
52	250.88	0.93	0.03	B>	35.90	0.75	0.03	B>	64.14	0.53	0.02	B>	0.53	-0.09	-0.01	A	19.81	1.21	0.02	B>
53	36.93	-0.27	-0.02	B<	0.00	0.00	0.00	A	5.37	-0.12	-0.01	A	4.38	-0.20	-0.01	A	16.76	0.77	0.03	B>
54	621.94	-0.96	-0.08	B<	16.64	-0.36	-0.03	B<	53.68	-0.32	-0.03	B<	0.78	0.08	0.01	A	16.41	-0.48	-0.04	B<
55	89.25	0.39	0.03	B>	4.08	0.18	0.01	A	84.76	0.42	0.03	B>	62.60	0.72	0.06	B>	11.25	0.51	0.03	B>
56	183.09	0.66	0.03	B>	33.65	0.62	0.04	B>	13.93	0.21	0.01	B>	26.32	-0.51	-0.03	B<	23.22	0.97	0.03	B>
57	32.99	-0.32	-0.01	B<	9.40	-0.35	-0.02	B<	0.06	0.02	0.00	A	21.35	0.56	0.03	B>	0.42	-0.14	0.00	A
58	22.84	0.20	0.01	B>	3.38	-0.16	-0.01	A	8.62	0.14	0.01	B>	51.50	0.66	0.05	B>	0.02	-0.03	0.00	A
59	137.23	-0.48	-0.03	B<	1.35	-0.10	-0.01	A	1.23	0.05	0.01	A	26.68	0.46	0.04	B>	3.44	0.28	0.01	A
60	76.08	0.33	0.03	B>	2.08	0.12	0.01	A	0.08	-0.01	-0.01	A	1.69	-0.11	-0.01	A	0.01	-0.02	0.00	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

**Table 9.2.1.7 (continued)**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT Grade 8**

Item	Reference: Male N = 40900 Focal: Female N = 39439				Reference: White N = 36668 Focal: African Am. N = 4590				Reference: White N = 36668 Focal: Hispanic N = 32497				Reference: White N = 36668 Focal: Native Am. N = 4373				Reference: White N = 36668 Focal: Asian N = 2236			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
61	120.34	0.44	0.03	B>	3.26	0.16	0.01	A	0.03	-0.01	0.01	A	1.00	0.09	0.01	A	0.02	-0.03	0.00	A
62	0.46	0.03	0.00	A	0.18	0.04	0.00	A	14.29	-0.16	-0.01	B<	7.70	-0.23	-0.02	B<	11.01	-0.44	-0.03	B<
63	48.76	0.27	0.02	B>	10.30	-0.28	-0.02	B<	6.20	-0.11	-0.01	A	14.57	-0.36	-0.03	B<	25.78	-0.59	-0.05	B<
64	21.46	0.22	0.01	B>	0.01	-0.01	0.00	A	50.08	-0.38	-0.02	B<	18.25	-0.42	-0.03	B<	4.10	-0.38	-0.01	A
65	135.69	0.42	0.04	B>	29.08	0.44	0.04	B>	96.12	0.40	0.04	B>	32.46	0.47	0.05	B>	8.25	0.35	0.03	B>
66	0.25	-0.02	0.00	A	20.99	-0.41	-0.03	B<	31.02	0.27	0.02	B>	51.98	0.68	0.05	B>	0.11	0.06	0.00	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

**Table 9.2.1.8**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT High School**

Item	Reference: Male N = 37143 Focal: Female N = 36697				Reference: White N = 35444 Focal: African Am. N = 4284				Reference: White N = 35444 Focal: Hispanic N = 27822				Reference: White N = 35444 Focal: Native Am. N = 4261				Reference: White N = 35444 Focal: Asian N = 2043			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	108.93	0.37	0.04	B>	11.83	0.28	0.03	B>	2.63	0.07	0.00	A	0.18	-0.04	-0.01	A	0.66	0.09	0.01	A
2	86.38	-0.55	-0.02	B<	55.88	-0.85	-0.04	B<	0.26	-0.04	0.00	A	0.21	0.06	0.00	A	0.35	0.16	0.00	A
3	634.80	-1.05	-0.08	B<	4.38	-0.19	-0.02	A	50.37	-0.33	-0.03	B<	28.59	-0.47	-0.04	B<	0.01	0.02	0.00	A
4	62.61	0.34	0.02	B>	0.54	0.07	0.00	A	76.24	-0.42	-0.04	B<	10.77	-0.29	-0.03	B<	4.99	0.38	0.02	A
5	121.20	-0.47	-0.03	B<	9.91	0.30	0.02	B>	37.81	0.30	0.02	B>	1.08	0.10	0.01	A	0.51	0.11	0.01	A
6	1.34	0.04	0.00	A	8.98	-0.24	-0.02	B<	2.14	-0.06	0.00	A	8.50	0.24	0.02	B>	2.91	0.22	0.02	A
7	173.72	0.63	0.04	B>	22.06	0.48	0.03	B>	74.66	0.47	0.03	B>	6.47	0.25	0.02	A	5.55	0.43	0.02	A
8	133.17	0.45	0.04	B>	80.77	0.79	0.07	B>	488.41	1.00	0.08	B>	30.95	0.51	0.04	B>	73.90	1.13	0.08	B>
9	19.41	-0.17	-0.01	B<	86.01	-0.80	-0.07	B<	249.99	-0.69	-0.06	B<	9.76	-0.27	-0.03	B<	34.50	-0.80	-0.05	B<
10	6.01	0.12	0.01	A	53.99	0.74	0.05	B>	129.14	0.60	0.04	B>	17.67	0.41	0.03	B>	36.23	1.18	0.04	B>
11	1.06	-0.04	0.00	A	5.04	0.20	0.02	A	64.99	0.38	0.03	B>	15.14	0.35	0.03	B>	3.35	0.29	0.02	A
12	251.29	-0.68	-0.05	B<	32.99	-0.52	-0.04	B<	206.44	-0.69	-0.05	B<	103.59	-0.91	-0.07	B<	44.62	-0.96	-0.05	B<
13	38.17	0.23	0.02	B>	68.37	0.69	0.06	B>	2.74	0.07	0.00	A	0.26	-0.04	-0.01	A	5.97	0.30	0.02	A
14	10.89	0.22	0.01	B>	3.75	0.27	0.01	A	7.40	0.21	0.01	B>	26.68	-0.65	-0.03	B<	2.52	0.48	0.01	A
15	46.58	-0.26	-0.02	B<	26.15	-0.44	-0.04	B<	84.10	-0.40	-0.03	B<	7.03	-0.24	-0.02	B<	24.92	-0.60	-0.05	B<
16	35.25	-0.45	-0.01	B<	40.41	-0.88	-0.03	B<	4.62	0.19	0.01	A	57.56	1.27	0.04	B>	2.47	-0.49	-0.01	A
17	290.86	-0.81	-0.05	B<	201.23	-1.34	-0.09	B<	384.87	-1.06	-0.07	B<	59.48	-0.75	-0.05	B<	137.29	-1.76	-0.08	C<
18	39.66	-0.25	-0.02	B<	1.24	0.10	0.01	A	10.78	-0.15	-0.01	B<	18.63	0.37	0.04	B>	3.13	0.25	0.02	A
19	67.70	0.30	0.03	B>	6.80	-0.21	-0.02	B<	128.34	-0.47	-0.05	B<	98.81	-0.84	-0.08	B<	19.95	-0.51	-0.05	B<
20	50.82	0.30	0.02	B>	21.45	0.42	0.03	B>	55.99	0.35	0.03	B>	7.09	0.25	0.02	B>	24.15	0.70	0.04	B>
21	19.71	0.24	0.01	B>	0.89	-0.11	-0.01	A	14.63	-0.24	-0.01	B<	11.95	-0.36	-0.02	B<	0.94	-0.22	-0.01	A
22	63.17	0.51	0.02	B>	0.09	-0.04	0.00	A	13.02	-0.27	-0.01	B<	16.65	-0.50	-0.02	B<	7.08	-0.70	-0.01	B<
23	192.74	0.61	0.04	B>	5.70	0.22	0.02	A	15.61	0.20	0.01	B>	0.06	-0.02	0.00	A	0.09	-0.05	0.00	A
24	0.20	0.02	0.00	A	1.10	0.09	0.01	A	5.05	0.10	0.01	A	1.06	0.09	0.01	A	0.06	0.03	0.00	A
25	5.05	-0.17	0.00	A	14.72	-0.53	-0.02	B<	13.91	0.31	0.01	B>	53.53	1.16	0.04	B>	10.03	-0.83	-0.01	B<
26	82.15	-0.51	-0.02	B<	8.72	-0.34	-0.02	B<	25.80	-0.32	-0.02	B<	2.67	-0.18	-0.01	A	15.69	-0.85	-0.02	B<
27	237.91	0.69	0.05	B>	12.76	0.35	0.02	B>	19.96	0.23	0.01	B>	10.97	0.32	0.02	B>	10.89	0.55	0.03	B>
28	21.82	-0.25	-0.01	B<	2.16	0.17	0.01	A	40.40	0.39	0.02	B>	3.36	0.20	0.01	A	0.68	0.20	0.00	A
29	86.13	0.45	0.02	B>	3.40	0.19	0.01	A	27.50	-0.29	-0.02	B<	65.52	-0.78	-0.06	B<	8.67	-0.54	-0.02	B<
30	16.51	0.16	0.01	B>	13.16	0.31	0.03	B>	36.22	0.27	0.03	B>	30.83	0.48	0.04	B>	32.65	0.84	0.05	B>

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items.

(table continues)

**Table 9.2.1.8 (continued)**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT High School**

Item	Reference: Male N = 37143 Focal: Female N = 36697				Reference: White N = 35444 Focal: African Am. N = 4284				Reference: White N = 35444 Focal: Hispanic N = 27822				Reference: White N = 35444 Focal: Native Am. N = 4261				Reference: White N = 35444 Focal: Asian N = 2043			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	91.05	-0.52	-0.02	B<	4.75	-0.25	-0.01	A	0.01	-0.01	0.00	A	0.22	0.05	0.00	A	7.53	-0.53	-0.02	B<
32	0.44	-0.03	0.00	A	24.48	0.45	0.04	B>	61.96	0.37	0.03	B>	22.60	0.45	0.03	B>	28.34	0.80	0.04	B>
33	23.19	0.18	0.02	B>	0.73	0.07	0.01	A	18.16	0.18	0.02	B>	6.07	0.21	0.02	A	6.63	0.30	0.03	A
34	6.83	-0.13	-0.01	B<	21.02	-0.46	-0.03	B<	114.35	-0.60	-0.04	B<	51.35	-0.69	-0.05	B<	23.59	-0.92	-0.03	B<
35	58.08	-0.41	-0.02	B<	7.58	-0.30	-0.02	B<	0.83	-0.06	0.00	A	4.87	-0.24	-0.02	A	9.23	-0.64	-0.02	B<
36	234.64	0.63	0.05	B>	23.99	0.44	0.04	B>	75.41	0.40	0.03	B>	18.91	0.39	0.03	B>	21.61	0.72	0.04	B>
37	0.41	0.02	0.00	A	3.27	0.15	0.02	A	6.98	0.12	0.02	B>	10.13	0.27	0.03	B>	0.16	0.06	0.00	A
38	28.34	0.21	0.02	B>	0.15	-0.04	0.00	A	25.01	0.22	0.02	B>	0.03	0.02	0.00	A	0.38	0.09	0.01	A
39	66.03	-0.33	-0.03	B<	0.17	0.04	0.00	A	10.75	0.15	0.02	B>	2.43	0.14	0.01	A	1.18	0.16	0.01	A
40	0.02	-0.01	0.00	A	5.72	0.22	0.02	A	6.86	0.13	0.01	B>	5.92	0.23	0.02	A	13.27	0.56	0.03	B>
41	89.49	-0.37	-0.03	B<	15.89	-0.34	-0.03	B<	103.90	-0.45	-0.04	B<	45.96	-0.58	-0.05	B<	4.60	-0.30	-0.02	A
42	75.58	-0.38	-0.03	B<	25.65	-0.46	-0.03	B<	10.62	-0.16	-0.01	B<	0.10	0.03	0.00	A	0.83	-0.16	-0.01	A
43	8.92	-0.11	-0.01	B<	0.11	-0.03	0.00	A	0.19	0.02	0.00	A	3.97	0.17	0.02	A	8.11	0.36	0.03	B>
44	28.73	0.21	0.02	B>	3.49	0.16	0.02	A	68.21	0.36	0.03	B>	10.30	0.28	0.02	B>	26.15	0.68	0.05	B>
45	11.45	0.14	0.01	B>	15.68	0.36	0.03	B>	2.21	0.07	0.01	A	8.10	-0.27	-0.02	B<	21.24	0.68	0.04	B>
46	14.37	0.14	0.01	B>	32.03	0.47	0.04	B>	2.91	0.07	0.01	A	0.76	0.07	0.01	A	3.36	0.23	0.02	A
47	252.51	0.65	0.05	B>	12.10	0.32	0.03	B>	0.36	0.03	0.01	A	9.75	0.28	0.03	B>	5.17	-0.32	-0.02	A
48	178.70	-0.75	-0.03	B<	54.00	-0.79	-0.04	B<	30.14	-0.35	-0.02	B<	9.05	0.35	0.02	B>	9.68	-0.68	-0.02	B<
49	139.19	0.45	0.04	B>	3.47	0.16	0.01	A	42.58	0.28	0.02	B>	33.08	0.50	0.04	B>	4.76	-0.27	-0.02	A
50	46.37	-0.29	-0.02	B<	1.97	-0.13	-0.01	A	8.03	0.14	0.01	B>	2.67	0.15	0.01	A	10.66	-0.47	-0.03	B<
51	1.80	0.05	0.00	A	28.16	0.46	0.04	B>	16.31	0.18	0.02	B>	0.52	-0.06	-0.01	A	21.58	0.67	0.04	B>
52	15.76	0.16	0.01	B>	0.35	0.06	0.00	A	17.99	-0.20	-0.02	B<	103.09	-1.07	-0.07	B<	1.70	0.17	0.01	A
53	6.32	0.13	0.01	A	13.44	-0.39	-0.02	B<	24.35	-0.29	-0.02	B<	35.48	0.66	0.04	B>	5.50	-0.46	-0.01	A
54	0.20	-0.02	0.00	A	0.86	0.08	0.01	A	15.37	0.17	0.02	B>	14.78	0.32	0.03	B>	12.91	0.50	0.03	B>
55	102.35	0.46	0.03	B>	2.32	0.16	0.01	A	34.51	0.30	0.02	B>	8.50	0.30	0.02	B>	24.43	0.79	0.04	B>
56	101.85	0.46	0.03	B>	0.27	-0.05	0.00	A	7.31	-0.14	-0.01	B<	2.89	-0.16	-0.01	A	22.26	-0.79	-0.03	B<
57	107.71	-0.40	-0.03	B<	3.30	-0.16	-0.01	A	25.64	-0.22	-0.02	B<	49.02	-0.60	-0.05	B<	21.60	-0.59	-0.04	B<
58	79.43	-0.40	-0.03	B<	0.00	0.01	0.00	A	2.17	0.08	0.01	A	0.50	-0.07	0.00	A	7.50	-0.44	-0.02	B<
59	63.99	0.43	0.02	B>	15.43	0.44	0.03	B>	38.45	0.38	0.02	B>	10.41	0.34	0.02	B>	6.52	0.57	0.01	A
60	77.63	0.33	0.03	B>	2.01	0.12	0.01	A	127.80	0.49	0.04	B>	47.09	0.59	0.05	B>	1.18	0.13	0.01	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items.

(table continues)

**Table 9.2.1.8 (continued)**  
**2008 Spring AIMS Differential Item Functioning Mathematics CRT High School**

Item	Reference: Male N = 37143 Focal: Female N = 36697				Reference: White N = 35444 Focal: African Am. N = 4284				Reference: White N = 35444 Focal: Hispanic N = 27822				Reference: White N = 35444 Focal: Native Am. N = 4261				Reference: White N = 35444 Focal: Asian N = 2043			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
61	171.72	-0.65	-0.03	B<	79.08	-0.91	-0.06	B<	297.93	-0.95	-0.06	B<	116.56	-1.06	-0.08	B<	19.42	-0.82	-0.03	B<
62	48.64	-0.29	-0.02	B<	1.87	-0.13	-0.01	A	13.00	0.17	0.01	B>	13.66	0.34	0.03	B>	1.40	0.18	0.01	A
63	43.47	0.28	0.02	B>	6.22	0.23	0.02	A	0.60	-0.04	0.00	A	3.07	0.16	0.01	A	4.94	0.35	0.02	A
64	215.28	-0.69	-0.04	B<	18.89	-0.43	-0.03	B<	209.57	-0.76	-0.05	B<	57.91	-0.71	-0.05	B<	11.51	-0.59	-0.02	B<
65	11.41	-0.14	-0.01	B<	1.44	0.11	0.01	A	0.32	0.03	0.00	A	0.97	-0.09	-0.01	A	6.73	0.38	0.02	B>
66	31.15	-0.21	-0.02	B<	9.73	-0.26	-0.02	B<	1.48	-0.05	0.00	A	16.24	0.34	0.03	B>	8.57	-0.38	-0.03	B<
67	7.29	0.10	0.01	B>	17.89	0.35	0.03	B>	99.81	0.43	0.04	B>	6.14	0.21	0.02	A	38.86	0.84	0.06	B>
68	14.67	-0.21	-0.01	B<	3.04	-0.20	-0.01	A	30.01	-0.34	-0.02	B<	8.72	-0.32	-0.02	B<	14.40	-0.75	-0.02	B<
69	294.97	1.08	0.03	B>	1.87	0.18	0.01	A	19.44	-0.31	-0.01	B<	6.27	0.31	0.02	A	15.56	-0.96	-0.02	B<
70	14.25	0.18	0.01	B>	1.01	-0.10	-0.01	A	0.73	0.05	0.00	A	0.00	0.00	0.00	A	3.43	-0.32	-0.01	A
71	0.02	0.01	0.00	A	10.70	-0.34	-0.02	B<	117.57	-0.61	-0.03	B<	5.08	-0.23	-0.01	A	14.21	-0.72	-0.02	B<
72	373.66	-0.87	-0.06	B<	92.13	-0.89	-0.07	B<	58.12	-0.38	-0.03	B<	3.68	-0.18	-0.01	A	45.32	-1.05	-0.05	B<
73	622.72	-1.21	-0.07	B<	63.36	-0.79	-0.05	B<	214.29	-0.80	-0.05	B<	45.77	-0.65	-0.04	B<	82.25	-1.48	-0.06	B<
74	116.12	0.44	0.03	B>	44.04	0.59	0.05	B>	34.60	0.27	0.02	B>	0.20	-0.04	0.00	A	39.20	0.95	0.05	B>
75	33.91	0.25	0.02	B>	0.92	-0.09	-0.01	A	24.07	0.24	0.02	B>	5.03	0.20	0.02	A	1.33	-0.19	-0.01	A
76	16.68	-0.29	-0.01	B<	0.04	-0.03	0.00	A	0.48	-0.06	0.00	A	7.83	0.39	0.02	B>	3.37	-0.50	-0.01	A
77	132.09	0.53	0.03	B>	73.67	0.85	0.06	B>	123.22	0.58	0.04	B>	0.07	-0.03	0.00	A	49.66	1.36	0.05	B>
78	5.42	0.10	0.01	A	4.21	-0.18	-0.02	A	95.21	0.46	0.04	B>	158.63	1.15	0.10	B>	2.40	0.24	0.01	A
79	3.09	-0.06	-0.01	A	0.40	-0.05	0.00	A	0.02	-0.01	0.00	A	5.08	0.19	0.02	A	11.34	-0.39	-0.04	B<
80	13.38	-0.14	-0.01	B<	13.60	0.32	0.03	B>	33.01	0.25	0.02	B>	3.19	0.15	0.01	A	1.29	0.15	0.01	A
81	10.63	-0.14	-0.01	B<	5.30	-0.22	-0.01	A	176.44	-0.66	-0.04	B<	83.56	-0.81	-0.06	B<	38.06	-0.93	-0.04	B<
82	27.04	-0.26	-0.01	B<	0.80	-0.09	-0.01	A	0.32	0.03	0.00	A	66.50	0.83	0.06	B>	1.45	0.24	0.01	A
83	120.69	0.57	0.03	B>	4.72	0.24	0.01	A	9.84	-0.18	-0.01	B<	5.38	-0.23	-0.01	A	0.50	-0.16	0.00	A
84	314.01	0.88	0.05	B>	4.15	-0.21	-0.01	A	9.06	-0.17	-0.01	B<	6.26	-0.25	-0.01	A	73.57	-1.38	-0.05	B<
85	396.18	-0.77	-0.07	B<	10.76	-0.28	-0.02	B<	24.23	-0.21	-0.02	B<	75.37	-0.74	-0.07	B<	0.71	-0.11	-0.01	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items.

**Table 9.2.1.9**  
**2008 Spring AIMS Differential Item Functioning Reading CRT Grade 3**

Item	Reference: Male N = 42539 Focal: Female N = 40494				Reference: White N = 35333 Focal: African Am. N = 4680				Reference: White N = 35333 Focal: Hispanic N = 36178				Reference: White N = 35333 Focal: Native Am. N = 4424				Reference: White N = 35333 Focal: Asian N = 2430			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	15.47	0.30	0.00	B>	19.13	-0.68	-0.02	B<	1.55	0.11	0.00	A	2.44	0.25	0.01	A	0.37	0.21	0.00	A
2	34.88	0.30	0.01	B>	0.24	-0.06	0.00	A	20.15	-0.26	-0.02	B<	0.51	-0.08	0.00	A	1.23	-0.20	-0.01	A
3	31.93	0.46	0.01	B>	0.11	-0.06	0.00	A	0.45	-0.07	0.00	A	5.28	0.40	0.01	A	2.28	0.54	0.01	A
4	16.67	0.19	0.01	B>	29.08	-0.52	-0.03	B<	0.00	0.00	0.00	A	20.18	-0.44	-0.03	B<	0.03	0.04	0.00	A
5	34.85	0.24	0.02	B>	9.36	0.28	0.02	B>	4.71	-0.10	-0.01	A	0.65	-0.07	-0.01	A	7.06	0.37	0.02	B>
6	38.82	-0.32	-0.01	B<	1.29	0.13	0.01	A	8.74	-0.18	-0.01	B<	7.33	0.30	0.02	B>	1.90	0.28	0.01	A
7	71.92	0.55	0.01	B>	9.37	0.42	0.02	B>	21.59	0.35	0.01	B>	42.44	0.90	0.04	B>	12.42	0.91	0.02	B>
8	7.17	-0.13	-0.01	B<	0.08	0.03	0.00	A	1.62	0.07	0.00	A	8.09	0.30	0.02	B>	1.10	0.19	0.01	A
9	23.03	0.23	0.01	B>	3.58	0.20	0.01	A	40.15	0.35	0.02	B>	1.12	-0.11	-0.01	A	3.38	0.34	0.01	A
10	0.29	-0.02	0.00	A	39.88	0.56	0.04	B>	183.86	0.61	0.04	B>	34.35	0.52	0.04	B>	13.10	0.48	0.03	B>
11	126.92	-0.44	-0.03	B<	0.79	0.08	0.01	A	0.57	-0.03	-0.01	A	0.05	-0.02	-0.01	A	0.92	-0.12	-0.01	A
12	80.00	0.36	0.03	B>	9.52	0.28	0.02	B>	90.14	0.43	0.03	B>	4.41	0.19	0.02	A	1.91	0.19	0.01	A
13	76.86	-0.33	-0.03	B<	0.02	0.01	0.00	A	0.03	-0.01	0.00	A	19.88	-0.41	-0.03	B<	2.64	0.19	0.02	A
14	57.67	0.42	0.01	B>	0.06	0.03	0.00	A	32.96	0.37	0.02	B>	7.91	0.33	0.02	B>	10.99	0.72	0.02	B>
15	109.77	0.41	0.03	B>	0.14	0.03	0.00	A	14.71	-0.17	-0.01	B<	1.14	0.10	0.01	A	0.01	0.01	0.00	A
16	77.62	0.31	0.03	B>	10.80	0.26	0.02	B>	31.15	0.22	0.01	B>	2.74	0.14	0.01	A	5.95	-0.25	-0.02	A
17	24.60	0.21	0.01	B>	9.77	0.29	0.02	B>	70.43	0.40	0.02	B>	5.99	0.23	0.01	A	2.33	0.22	0.01	A
18	52.25	0.27	0.02	B>	22.41	0.39	0.03	B>	50.28	-0.30	-0.02	B<	23.72	-0.41	-0.04	B<	4.07	-0.24	-0.02	A
19	114.60	-0.53	-0.02	B<	17.50	-0.44	-0.02	B<	107.23	-0.58	-0.03	B<	40.97	-0.66	-0.04	B<	2.69	-0.28	-0.01	A
20	0.30	0.03	0.00	A	12.39	0.38	0.02	B>	90.65	0.54	0.03	B>	38.99	0.68	0.04	B>	54.35	1.51	0.05	C>
21	503.14	-0.82	-0.07	B<	62.78	-0.64	-0.06	B<	620.80	-1.02	-0.09	B<	39.88	-0.53	-0.05	B<	70.94	-0.93	-0.07	B<
22	9.94	0.12	0.01	B>	6.45	-0.22	-0.02	A	52.14	-0.30	-0.02	B<	4.61	-0.19	-0.02	A	1.65	-0.16	-0.01	A
23	10.61	0.12	0.01	B>	6.92	0.22	0.02	B>	34.02	0.25	0.02	B>	1.39	0.10	0.01	A	29.01	0.68	0.05	B>
24	4.05	0.13	0.00	A	7.75	0.38	0.01	B>	38.03	0.45	0.02	B>	57.49	1.04	0.04	B>	17.70	1.13	0.02	B>
25	26.91	0.18	0.02	B>	1.10	0.09	0.01	A	26.02	0.21	0.02	B>	13.19	0.31	0.03	B>	1.56	0.13	0.01	A
26	25.28	0.20	0.02	B>	7.67	0.25	0.02	B>	60.60	0.36	0.02	B>	30.94	0.51	0.04	B>	6.92	0.35	0.02	B>
27	0.08	0.01	0.00	A	0.06	0.02	0.00	A	1.48	-0.06	0.00	A	14.37	0.36	0.03	B>	6.22	0.38	0.02	A
28	39.57	-0.24	-0.02	B<	0.90	0.08	0.01	A	39.60	0.27	0.03	B>	10.31	0.28	0.02	B>	1.12	0.13	0.01	A
29	64.44	-0.38	-0.02	B<	8.32	-0.29	-0.02	B<	2.94	0.09	0.01	A	224.54	1.66	0.10	C>	0.37	0.10	0.00	A
30	341.06	-0.80	-0.05	B<	14.81	-0.38	-0.02	B<	726.43	-1.31	-0.09	B<	136.47	-1.09	-0.08	B<	29.17	-0.77	-0.04	B<

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

**Table 9.2.1.9 (continued)**  
**2008 Spring AIMS Differential Item Functioning Reading CRT Grade 3**

Item	Reference: Male N = 42539 Focal: Female N = 40494				Reference: White N = 35333 Focal: African Am. N = 4680				Reference: White N = 35333 Focal: Hispanic N = 36178				Reference: White N = 35333 Focal: Native Am. N = 4424				Reference: White N = 35333 Focal: Asian N = 2430			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	13.36	0.16	0.01	B>	13.33	-0.34	-0.02	B<	15.01	-0.19	-0.01	B<	17.79	0.41	0.03	B>	0.40	0.10	0.00	A
32	71.12	0.68	0.01	B>	0.68	-0.14	0.00	A	3.17	0.17	0.00	A	0.51	-0.12	0.00	A	2.48	0.54	0.01	A
33	0.36	0.03	0.00	A	3.36	-0.20	-0.01	A	141.28	-0.67	-0.04	B<	68.82	-0.83	-0.05	B<	5.19	-0.41	-0.01	A
34	9.83	0.12	0.01	B>	2.31	0.13	0.01	A	2.55	-0.07	0.00	A	21.09	-0.40	-0.03	B<	8.60	-0.34	-0.03	B<
35	76.71	0.44	0.02	B>	1.44	0.13	0.01	A	5.75	0.14	0.01	A	17.74	-0.44	-0.03	B<	1.35	-0.22	-0.01	A
36	7.09	0.15	0.00	B>	0.84	0.12	0.01	A	0.16	0.03	0.00	A	7.90	-0.33	-0.02	B<	3.97	0.45	0.01	A
37	1.06	0.04	0.00	A	1.16	0.10	0.01	A	12.59	0.16	0.01	B>	8.02	-0.25	-0.02	B<	17.29	0.58	0.03	B>
38	53.69	0.27	0.02	B>	3.24	0.15	0.01	A	24.36	-0.20	-0.01	B<	16.21	-0.35	-0.03	B<	30.35	-0.62	-0.05	B<
39	180.23	0.53	0.04	B>	0.37	0.06	0.00	A	47.61	0.31	0.02	B>	8.83	0.28	0.02	B>	3.06	-0.22	-0.01	A
40	226.43	0.56	0.05	B>	17.54	0.35	0.03	B>	117.01	0.46	0.04	B>	75.74	0.73	0.07	B>	1.45	0.15	0.01	A
41	59.51	-0.33	-0.02	B<	20.52	-0.42	-0.03	B<	125.43	-0.54	-0.03	B<	28.54	-0.48	-0.03	B<	22.37	-0.66	-0.03	B<
42	125.74	-0.44	-0.03	B<	123.58	-0.93	-0.08	B<	107.16	-0.46	-0.04	B<	24.47	0.47	0.03	B>	52.89	-0.86	-0.06	B<
43	1.96	-0.05	0.00	A	10.65	-0.27	-0.02	B<	20.83	0.18	0.01	B>	2.68	0.14	0.01	A	33.63	0.63	0.06	B>
44	478.81	-0.82	-0.07	B<	0.68	-0.07	-0.01	A	0.91	-0.04	-0.01	A	58.26	-0.64	-0.06	B<	39.33	-0.71	-0.06	B<
45	17.98	-0.17	-0.01	B<	0.08	-0.03	0.00	A	49.62	0.32	0.02	B>	0.03	0.02	0.00	A	5.24	0.31	0.02	A
46	57.92	-0.29	-0.02	B<	0.18	0.04	0.00	A	8.20	-0.12	-0.01	B<	76.61	-0.75	-0.06	B<	11.68	-0.41	-0.03	B<
47	58.00	-0.30	-0.02	B<	6.28	0.22	0.02	A	111.40	0.48	0.04	B>	32.84	0.51	0.04	B>	13.95	0.52	0.03	B>
48	69.84	-0.37	-0.02	B<	1.29	-0.11	-0.01	A	137.88	-0.58	-0.03	B<	44.00	-0.61	-0.04	B<	0.07	0.04	0.00	A
49	14.31	0.15	0.01	B>	13.88	0.34	0.02	B>	83.79	0.42	0.03	B>	3.05	0.16	0.01	A	0.16	0.06	0.00	A
50	104.12	-0.41	-0.03	B<	6.01	-0.22	-0.02	A	9.50	-0.14	-0.01	B<	0.06	-0.02	0.00	A	1.28	-0.15	-0.01	A
51	130.42	0.50	0.03	B>	15.75	-0.37	-0.03	B<	13.51	0.18	0.01	B>	8.23	0.28	0.02	B>	0.95	0.15	0.01	A
52	0.15	-0.02	0.00	A	15.51	-0.37	-0.02	B<	122.57	-0.54	-0.03	B<	47.81	-0.65	-0.05	B<	11.88	-0.50	-0.02	B<
53	102.19	0.37	0.03	B>	4.30	0.17	0.02	A	119.64	0.45	0.04	B>	5.95	0.21	0.02	A	0.24	-0.06	0.00	A
54	25.65	-0.20	-0.02	B<	0.26	0.05	0.01	A	13.13	-0.16	-0.01	B<	7.63	-0.24	-0.02	B<	0.02	0.02	0.00	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

**Table 9.2.1.10**  
**2008 Spring AIMS Differential Item Functioning Reading CRT Grade 4**

Item	Reference: Male N = 41619 Focal: Female N = 39838				Reference: White N = 35368 Focal: African Am. N = 4785				Reference: White N = 35368 Focal: Hispanic N = 34814				Reference: White N = 35368 Focal: Native Am. N = 4121				Reference: White N = 35368 Focal: Asian N = 2384			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	21.29	-0.25	-0.01	B<	3.38	0.22	0.01	A	0.00	0.00	0.00	A	0.74	-0.10	-0.01	A	0.09	-0.07	0.00	A
2	1.48	-0.05	0.00	A	5.43	0.20	0.01	A	97.77	0.45	0.03	B>	16.34	0.37	0.03	B>	5.76	0.31	0.02	A
3	64.30	-0.33	-0.02	B<	10.98	0.30	0.02	B>	7.29	0.13	0.01	B>	22.48	-0.43	-0.03	B<	22.13	0.68	0.04	B>
4	3.12	-0.06	-0.01	A	7.20	0.21	0.02	B>	196.65	0.58	0.05	B>	50.06	-0.62	-0.06	B<	2.40	-0.18	-0.02	A
5	41.82	-0.33	-0.01	B<	5.45	0.25	0.01	A	39.07	0.37	0.02	B>	37.76	0.69	0.04	B>	4.21	0.38	0.01	A
6	97.28	0.38	0.03	B>	7.77	0.24	0.02	B>	9.95	0.14	0.02	B>	0.09	-0.03	0.00	A	3.90	0.26	0.02	A
7	6.31	0.10	0.01	A	0.96	-0.09	-0.01	A	1.31	0.05	0.01	A	0.87	-0.09	-0.01	A	3.18	0.24	0.01	A
8	22.38	-0.27	-0.01	B<	18.87	-0.50	-0.02	B<	3.80	0.13	0.01	A	1.77	0.16	0.01	A	0.01	0.03	0.00	A
9	0.81	-0.04	0.00	A	19.56	0.38	0.03	B>	35.55	0.27	0.01	B>	3.43	-0.19	-0.01	A	0.86	0.11	0.01	A
10	169.69	-0.46	-0.04	B<	2.67	-0.13	-0.01	A	6.71	-0.11	-0.01	B<	20.38	-0.38	-0.04	B<	12.29	-0.37	-0.03	B<
11	37.52	-0.29	-0.01	B<	35.43	-0.61	-0.04	B<	227.01	-0.83	-0.05	B<	32.39	-0.59	-0.04	B<	0.88	-0.16	-0.01	A
12	33.20	-0.24	-0.02	B<	6.84	-0.24	-0.02	B<	0.39	0.03	0.00	A	18.36	-0.41	-0.03	B<	1.47	0.17	0.01	A
13	287.20	0.70	0.05	B>	21.69	0.42	0.03	B>	0.08	-0.01	0.00	A	25.21	0.47	0.04	B>	28.24	0.75	0.04	B>
14	24.69	-0.31	-0.01	B<	0.30	0.07	0.00	A	0.00	0.00	0.00	A	0.30	0.07	0.00	A	2.87	0.45	0.01	A
15	53.07	-0.28	-0.02	B<	0.83	0.08	0.01	A	8.34	0.13	0.00	B>	0.41	-0.06	-0.01	A	4.85	0.26	0.02	A
16	1.50	0.06	0.00	A	0.11	-0.04	0.00	A	0.69	0.05	0.00	A	11.51	-0.34	-0.02	B<	4.23	0.35	0.01	A
17	210.69	0.66	0.04	B>	2.83	0.17	0.01	A	0.24	0.03	0.00	A	16.06	-0.39	-0.03	B<	4.64	-0.32	-0.02	A
18	30.03	0.38	0.01	B>	5.66	-0.33	-0.01	A	9.39	0.25	0.01	B>	5.31	0.33	0.01	A	0.01	-0.03	0.00	A
19	122.32	-0.41	-0.03	B<	19.09	0.36	0.03	B>	63.15	-0.33	-0.03	B<	10.77	-0.29	-0.03	B<	6.91	0.31	0.02	B>
20	162.07	0.57	0.03	B>	0.51	0.07	0.00	A	0.57	0.04	0.00	A	19.96	0.45	0.03	B>	0.12	0.06	0.00	A
21	110.01	0.59	0.02	B>	18.15	0.51	0.02	B>	38.74	0.40	0.02	B>	39.57	0.76	0.04	B>	0.00	0.00	0.00	A
22	12.39	0.17	0.01	B>	0.34	0.07	0.00	A	265.69	-0.91	-0.05	B<	143.64	-1.19	-0.08	B<	8.57	-0.49	-0.02	B<
23	372.17	0.73	0.06	B>	0.00	0.00	0.00	A	124.77	-0.47	-0.04	B<	18.61	-0.38	-0.04	B<	55.12	-0.84	-0.07	B<
24	71.90	0.34	0.03	B>	6.69	0.22	0.02	B>	18.99	0.20	0.01	B>	5.66	0.22	0.02	A	3.01	0.23	0.01	A
25	1.56	0.05	0.00	A	0.03	-0.02	0.00	A	162.53	-0.62	-0.04	B<	36.33	-0.58	-0.04	B<	47.68	-0.90	-0.05	B<
26	0.70	-0.03	0.00	A	13.49	-0.31	-0.02	B<	0.05	-0.01	0.00	A	19.38	-0.40	-0.04	B<	1.50	0.17	0.01	A
27	97.14	-0.36	-0.03	B<	0.36	0.05	0.00	A	21.77	-0.19	-0.02	B<	2.68	-0.14	-0.01	A	8.24	-0.32	-0.03	B<
28	62.51	0.54	0.01	B>	6.22	0.36	0.01	A	18.26	0.34	0.01	B>	25.61	0.72	0.03	B>	2.26	0.41	0.01	A
29	36.91	0.31	0.01	B>	0.84	-0.10	-0.01	A	6.30	0.15	0.01	A	5.67	-0.26	-0.02	A	0.00	-0.01	0.00	A
30	53.69	0.37	0.02	B>	0.75	0.09	0.01	A	65.47	0.46	0.02	B>	5.56	0.26	0.01	A	1.87	0.24	0.01	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)



**Table 9.2.1.10 (continued)**  
**2008 Spring AIMS Differential Item Functioning Reading CRT Grade 4**

Item	Reference: Male N = 41619 Focal: Female N = 39838				Reference: White N = 35368 Focal: African Am. N = 4785				Reference: White N = 35368 Focal: Hispanic N = 34814				Reference: White N = 35368 Focal: Native Am. N = 4121				Reference: White N = 35368 Focal: Asian N = 2384			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	468.66	1.06	0.05	B>	3.74	0.20	0.01	A	112.97	0.59	0.03	B>	4.28	0.22	0.01	A	2.52	0.27	0.01	A
32	94.83	0.43	0.03	B>	0.31	0.05	0.00	A	43.15	0.33	0.03	B>	76.51	0.90	0.06	B>	1.45	0.18	0.01	A
33	11.13	0.15	0.01	B>	2.36	-0.15	-0.01	A	35.80	0.31	0.02	B>	40.70	0.63	0.05	B>	1.31	0.18	0.01	A
34	53.98	0.31	0.02	B>	5.85	-0.22	-0.01	A	0.69	-0.04	0.00	A	125.73	1.10	0.08	B>	0.65	0.11	0.01	A
35	21.21	0.21	0.01	B>	0.56	0.07	0.00	A	2.94	0.09	0.00	A	4.88	0.22	0.02	A	1.32	-0.18	-0.01	A
36	0.12	-0.02	0.00	A	1.62	0.17	0.01	A	27.69	0.38	0.01	B>	34.34	0.80	0.03	B>	4.43	0.50	0.01	A
37	6.42	-0.10	-0.01	A	3.04	0.15	0.01	A	0.35	-0.03	0.01	A	17.04	0.36	0.04	B>	0.90	-0.12	-0.01	A
38	85.83	-0.33	-0.03	B<	0.00	0.00	0.00	A	23.07	-0.19	-0.02	B<	5.06	-0.19	-0.02	A	4.32	-0.23	-0.02	A
39	23.32	0.21	0.01	B>	7.21	0.26	0.02	B>	13.10	0.18	0.02	B>	1.87	-0.13	-0.01	A	0.33	0.09	0.00	A
40	2.82	0.08	0.00	A	2.07	-0.15	-0.01	A	15.91	-0.23	-0.01	B<	0.47	0.08	0.01	A	0.33	-0.11	0.00	A
41	0.02	-0.01	0.00	A	0.00	0.00	0.00	A	0.22	-0.03	0.00	A	11.87	-0.36	-0.02	B<	2.65	0.30	0.01	A
42	213.48	-0.58	-0.04	B<	31.41	-0.48	-0.04	B<	149.07	-0.55	-0.04	B<	56.32	-0.67	-0.06	B<	2.70	-0.21	-0.01	A
43	178.86	-0.63	-0.03	B<	47.14	-0.67	-0.04	B<	392.65	-1.07	-0.07	B<	93.96	-0.95	-0.07	B<	7.39	-0.44	-0.02	B<
44	155.91	-0.52	-0.04	B<	2.73	-0.15	-0.01	A	1.23	-0.05	-0.01	A	0.63	0.08	0.00	A	11.50	0.46	0.03	B>
45	255.59	-0.70	-0.04	B<	55.69	-0.68	-0.05	B<	125.70	-0.56	-0.04	B<	48.59	-0.66	-0.05	B<	14.53	-0.52	-0.03	B<
46	0.71	-0.04	0.00	A	10.65	-0.31	-0.02	B<	74.07	-0.45	-0.03	B<	0.36	-0.06	-0.01	A	3.77	-0.31	-0.01	A
47	76.22	0.36	0.03	B>	4.89	-0.20	-0.01	A	0.09	0.01	0.00	A	37.98	0.59	0.04	B>	0.25	-0.07	0.00	A
48	3.28	-0.07	-0.01	A	14.76	0.31	0.03	B>	76.34	0.36	0.03	B>	0.61	-0.07	0.00	A	24.44	-0.53	-0.05	B<
49	17.77	-0.18	-0.01	B<	3.56	-0.17	-0.01	A	15.20	-0.19	-0.01	B<	6.97	-0.24	-0.02	B<	0.11	0.05	0.00	A
50	5.16	0.14	0.00	A	0.11	-0.04	0.00	A	208.06	1.00	0.04	B>	91.80	1.26	0.06	B>	14.31	0.86	0.02	B>
51	25.86	-0.26	-0.01	B<	4.87	-0.23	-0.01	A	0.53	-0.04	0.00	A	0.01	-0.01	0.00	A	0.67	0.14	0.01	A
52	0.66	-0.05	0.00	A	2.91	-0.21	-0.01	A	44.69	0.50	0.02	B>	30.46	0.74	0.03	B>	0.91	0.24	0.00	A
53	143.45	-0.73	-0.02	B<	2.79	0.21	0.01	A	10.19	0.23	0.01	B>	70.60	1.14	0.05	B>	0.43	0.15	0.00	A
54	0.95	-0.05	0.00	A	0.03	0.02	0.00	A	25.45	0.27	0.01	B>	50.06	0.75	0.05	B>	0.82	0.15	0.01	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

**Table 9.2.1.11**  
**2008 Spring AIMS Differential Item Functioning Reading CRT Grade 5**

Item	Reference: Male N = 41628 Focal: Female N = 39524				Reference: White N = 35421 Focal: African Am. N = 4639				Reference: White N = 35421 Focal: Hispanic N = 34753				Reference: White N = 35421 Focal: Native Am. N = 4060				Reference: White N = 35421 Focal: Asian N = 2294			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	4.40	0.09	0.00	A	42.92	-0.64	-0.04	B<	530.77	-1.17	-0.08	B<	148.76	-1.18	-0.09	B<	61.20	-1.14	-0.05	B<
2	65.51	0.56	0.01	B>	9.86	-0.46	-0.01	B<	77.72	-0.71	-0.02	B<	2.50	0.25	0.01	A	7.14	-0.68	-0.01	B<
3	81.14	-0.45	-0.02	B<	0.76	-0.10	-0.01	A	18.99	-0.25	-0.02	B<	58.51	-0.79	-0.05	B<	0.03	0.04	0.00	A
4	25.01	-0.17	-0.02	B<	1.48	-0.10	-0.01	A	0.06	-0.01	-0.01	A	23.83	0.42	0.04	B>	3.21	0.20	0.02	A
5	1.51	0.07	0.00	A	1.49	0.15	0.01	A	27.44	-0.33	-0.02	B<	0.95	0.12	0.01	A	9.15	-0.56	-0.02	B<
6	10.68	-0.13	-0.01	B<	0.68	-0.07	-0.01	A	24.33	0.22	0.01	B>	4.50	0.19	0.02	A	5.21	0.30	0.02	A
7	32.92	-0.28	-0.01	B<	0.32	-0.06	0.00	A	3.50	0.10	0.01	A	2.55	0.17	0.01	A	2.53	-0.27	-0.01	A
8	98.51	0.42	0.03	B>	0.16	0.04	0.00	A	71.39	0.41	0.03	B>	3.86	-0.19	-0.02	A	0.21	-0.07	0.00	A
9	8.84	0.11	0.01	B>	20.69	-0.37	-0.03	B<	29.69	-0.23	-0.01	B<	8.66	0.26	0.02	B>	3.83	-0.23	-0.02	A
10	180.98	-0.54	-0.04	B<	97.49	-0.86	-0.06	B<	972.78	-1.40	-0.10	B<	220.78	-1.31	-0.11	B<	60.19	-1.05	-0.06	B<
11	14.01	-0.20	-0.01	B<	40.43	-0.71	-0.03	B<	212.17	-0.90	-0.04	B<	47.40	-0.76	-0.04	B<	5.33	-0.47	-0.01	A
12	0.30	0.02	0.00	A	7.43	0.23	0.02	B>	89.06	0.41	0.03	B>	23.28	0.44	0.04	B>	0.00	-0.01	0.00	A
13	29.27	0.25	0.01	B>	0.17	0.04	0.00	A	27.93	0.28	0.02	B>	20.26	0.47	0.03	B>	11.74	0.60	0.02	B>
14	14.69	0.15	0.01	B>	0.05	-0.02	0.00	A	23.19	-0.22	-0.02	B<	33.30	-0.53	-0.04	B<	0.71	0.12	0.01	A
15	330.36	0.76	0.05	B>	5.53	0.22	0.02	A	167.79	0.62	0.05	B>	31.36	0.53	0.04	B>	10.70	0.48	0.03	B>
16	2.49	0.06	0.00	A	0.34	0.05	0.00	A	137.82	0.54	0.04	B>	9.15	-0.28	-0.03	B<	0.00	0.01	0.00	A
17	24.33	0.19	0.02	B>	3.86	-0.17	-0.01	A	5.18	-0.10	-0.01	A	11.27	0.31	0.03	B>	7.37	0.36	0.02	B>
18	20.29	0.17	0.01	B>	13.77	0.31	0.03	B>	174.50	0.55	0.05	B>	84.52	0.80	0.07	B>	4.16	0.24	0.02	A
19	118.72	0.42	0.03	B>	2.41	-0.13	-0.01	A	41.11	0.28	0.02	B>	0.92	0.09	0.01	A	20.17	0.58	0.04	B>
20	101.39	0.36	0.03	B>	7.00	0.22	0.02	B>	87.53	0.38	0.03	B>	27.52	0.46	0.04	B>	17.38	0.48	0.04	B>
21	71.28	0.35	0.02	B>	10.75	-0.29	-0.02	B<	13.55	-0.17	-0.01	B<	96.14	-0.87	-0.07	B<	17.82	-0.57	-0.03	B<
22	0.00	0.00	0.00	A	2.80	-0.17	-0.01	A	0.84	0.05	0.00	A	6.81	0.27	0.02	B>	5.41	0.42	0.02	A
23	99.99	-0.42	-0.03	B<	1.61	0.12	0.01	A	27.57	0.25	0.01	B>	3.08	0.17	0.01	A	4.74	0.32	0.02	A
24	321.53	-0.74	-0.05	B<	8.92	-0.27	-0.02	B<	3.39	-0.09	0.00	A	7.80	-0.26	-0.02	B<	0.11	0.05	0.00	A
25	140.17	-0.65	-0.02	B<	0.31	0.07	0.00	A	35.94	-0.39	-0.02	B<	73.77	-0.95	-0.05	B<	3.80	-0.39	-0.01	A
26	229.05	-0.52	-0.05	B<	0.16	0.03	0.00	A	248.37	-0.61	-0.06	B<	26.76	-0.43	-0.04	B<	0.00	0.01	0.00	A
27	66.41	0.41	0.02	B>	8.06	0.31	0.02	B>	0.52	-0.04	0.00	A	9.78	-0.33	-0.02	B<	0.06	0.05	0.00	A
28	3.41	-0.08	-0.01	A	10.32	0.30	0.02	B>	41.05	0.30	0.03	B>	30.71	0.53	0.04	B>	22.77	0.73	0.04	B>
29	150.72	0.53	0.03	B>	21.27	0.45	0.03	B>	41.80	0.32	0.02	B>	0.52	0.07	0.01	A	9.55	0.48	0.02	B>
30	29.81	0.25	0.01	B>	3.76	0.20	0.01	A	148.95	-0.63	-0.04	B<	44.67	-0.65	-0.05	B<	23.99	-0.77	-0.03	B<

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

**Table 9.2.1.11 (continued)**  
**2008 Spring AIMS Differential Item Functioning Reading CRT Grade 5**

Item	Reference: Male N = 41628 Focal: Female N = 39524				Reference: White N = 35421 Focal: African Am. N = 4639				Reference: White N = 35421 Focal: Hispanic N = 34753				Reference: White N = 35421 Focal: Native Am. N = 4060				Reference: White N = 35421 Focal: Asian N = 2294			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	2.76	0.06	0.01	A	2.03	0.11	0.01	A	79.03	0.36	0.03	B>	0.95	0.08	0.01	A	0.99	0.11	0.01	A
32	2.64	0.06	0.01	A	6.40	0.21	0.02	A	361.42	0.79	0.07	B>	13.94	-0.32	-0.03	B<	8.07	-0.32	-0.03	B<
33	20.88	0.25	0.01	B>	1.62	0.15	0.01	A	99.87	0.62	0.03	B>	58.38	0.93	0.05	B>	2.83	0.33	0.01	A
34	88.41	-0.37	-0.03	B<	0.02	0.01	0.00	A	19.60	0.20	0.01	B>	25.51	0.46	0.04	B>	18.71	0.58	0.04	B>
35	7.70	-0.11	-0.01	B<	54.32	0.67	0.05	B>	153.05	0.58	0.04	B>	73.48	0.80	0.07	B>	27.21	0.75	0.04	B>
36	9.70	0.12	0.01	B>	38.51	0.54	0.04	B>	180.32	0.60	0.05	B>	81.62	0.83	0.07	B>	11.18	0.44	0.03	B>
37	1.07	0.04	0.00	A	17.87	0.37	0.03	B>	15.68	0.18	0.02	B>	1.99	0.13	0.01	A	9.07	0.41	0.03	B>
38	187.04	-0.63	-0.03	B<	14.06	-0.38	-0.02	B<	656.36	-1.32	-0.08	B<	51.32	-0.71	-0.05	B<	23.55	-0.74	-0.03	B<
39	17.45	-0.15	-0.02	B<	13.57	-0.29	-0.03	B<	43.85	0.27	0.03	B>	3.63	0.16	0.02	A	0.00	0.00	0.00	A
40	340.02	-0.72	-0.06	B<	0.53	-0.06	0.00	A	48.08	-0.30	-0.02	B<	38.60	0.56	0.05	B>	21.76	-0.58	-0.04	B<
41	64.23	-0.29	-0.03	B<	2.13	-0.12	-0.01	A	100.40	-0.41	-0.03	B<	11.02	-0.30	-0.03	B<	34.00	-0.66	-0.06	B<
42	6.61	0.11	0.01	A	5.28	-0.22	-0.02	A	10.11	-0.16	-0.01	B<	4.48	-0.21	-0.02	A	0.02	0.03	0.00	A
43	128.76	-0.41	-0.04	B<	33.84	-0.46	-0.04	B<	226.30	-0.61	-0.05	B<	0.79	0.08	0.01	A	46.48	-0.76	-0.06	B<
44	29.63	0.19	0.02	B>	68.18	0.66	0.06	B>	38.65	0.25	0.02	B>	35.90	0.51	0.05	B>	0.74	-0.10	-0.01	A
45	20.29	0.16	0.02	B>	24.62	0.40	0.04	B>	41.13	0.26	0.02	B>	4.61	0.19	0.02	A	0.03	-0.02	0.00	A
46	54.81	-0.42	-0.02	B<	2.03	-0.17	-0.01	A	4.41	-0.14	-0.01	A	6.66	0.32	0.02	B>	0.32	-0.13	0.00	A
47	29.84	0.20	0.02	B>	1.38	-0.10	-0.01	A	21.40	-0.19	-0.02	B<	3.14	-0.16	-0.01	A	0.13	-0.04	0.00	A
48	214.39	0.74	0.03	B>	3.37	0.20	0.01	A	34.45	0.34	0.02	B>	6.88	0.28	0.02	B>	1.38	0.22	0.01	A
49	0.04	-0.01	0.00	A	0.07	-0.02	0.00	A	52.26	-0.30	-0.03	B<	27.18	-0.45	-0.04	B<	1.95	-0.17	-0.01	A
50	20.81	0.27	0.01	B>	0.04	-0.03	0.00	A	25.60	0.34	0.01	B>	18.36	0.53	0.03	B>	2.28	0.35	0.01	A
51	35.00	0.29	0.01	B>	9.30	-0.31	-0.02	B<	1.41	-0.07	0.00	A	0.29	-0.06	0.00	A	0.08	-0.05	0.00	A
52	16.23	0.19	0.01	B>	5.34	-0.24	-0.01	A	0.94	-0.05	0.00	A	18.40	-0.44	-0.03	B<	8.67	0.54	0.02	B>
53	0.02	-0.01	0.00	A	0.94	-0.08	-0.01	A	43.70	-0.28	-0.03	B<	54.40	-0.65	-0.06	B<	0.02	0.02	0.00	A
54	4.54	0.09	0.01	A	0.17	0.04	0.00	A	42.91	0.32	0.02	B>	1.02	0.10	0.01	A	0.88	0.15	0.01	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

**Table 9.2.1.12**  
**2008 Spring AIMS Differential Item Functioning Reading CRT Grade 6**

Item	Reference: Male N = 41467 Focal: Female N = 39975				Reference: White N = 36570 Focal: African Am. N = 4621				Reference: White N = 36570 Focal: Hispanic N = 33688				Reference: White N = 36570 Focal: Native Am. N = 4253				Reference: White N = 36570 Focal: Asian N = 2352			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	0.03	-0.01	0.00	A	1.06	-0.09	-0.01	A	36.64	-0.28	-0.02	B<	31.55	-0.51	-0.04	B<	17.96	-0.58	-0.03	B<
2	9.73	0.23	0.00	B>	0.00	0.02	0.00	A	2.34	0.14	0.00	A	4.84	0.34	0.01	A	0.10	-0.11	0.00	A
3	41.65	-0.26	-0.02	B<	7.33	0.25	0.02	B>	9.34	0.14	0.01	B>	3.10	0.16	0.01	A	0.02	0.02	0.00	A
4	12.31	0.25	0.00	B>	0.00	-0.01	0.00	A	10.69	0.27	0.01	B>	2.03	0.20	0.01	A	0.03	-0.07	0.00	A
5	0.02	0.01	0.00	A	1.89	-0.16	-0.01	A	48.82	0.44	0.02	B>	38.34	0.71	0.04	B>	1.82	0.30	0.01	A
6	4.87	-0.11	-0.01	A	13.59	-0.38	-0.02	B<	56.68	-0.42	-0.02	B<	71.80	-0.84	-0.06	B<	0.48	0.14	0.00	A
7	110.28	-0.45	-0.03	B<	0.58	0.07	0.01	A	14.97	0.19	0.01	B>	11.82	0.33	0.02	B>	1.32	-0.17	-0.01	A
8	95.73	-0.49	-0.02	B<	7.81	0.31	0.02	B>	23.03	0.27	0.01	B>	56.36	0.84	0.05	B>	3.24	0.33	0.01	A
9	82.26	-0.52	-0.02	B<	1.88	0.17	0.01	A	65.83	0.54	0.02	B>	32.44	0.72	0.03	B>	4.50	0.46	0.01	A
10	113.93	0.46	0.03	B>	0.38	0.06	0.00	A	11.18	0.17	0.01	B>	18.97	0.43	0.03	B>	30.81	-0.74	-0.04	B<
11	5.52	0.17	0.00	A	3.14	0.27	0.01	A	39.85	0.53	0.02	B>	25.99	0.78	0.03	B>	7.75	0.85	0.01	B>
12	0.77	0.05	0.00	A	0.01	0.02	0.00	A	1.56	-0.09	0.00	A	0.38	-0.08	0.00	A	1.25	-0.25	-0.01	A
13	99.24	0.43	0.03	B>	0.48	-0.07	0.00	A	26.63	-0.25	-0.02	B<	2.67	-0.15	-0.01	A	3.49	0.30	0.01	A
14	13.63	0.18	0.01	B>	3.57	0.20	0.01	A	1.04	-0.06	0.00	A	50.63	-0.71	-0.05	B<	0.00	-0.01	0.00	A
15	1.05	0.04	0.00	A	1.89	-0.11	-0.01	A	2.36	0.06	0.01	A	1.72	0.11	0.01	A	1.18	-0.13	-0.01	A
16	169.19	0.56	0.04	B>	1.40	0.11	0.01	A	6.89	-0.13	0.00	B<	0.15	-0.04	0.00	A	1.11	-0.16	-0.01	A
17	13.19	0.13	0.01	B>	0.16	0.03	0.00	A	9.21	-0.13	-0.01	B<	3.81	-0.17	-0.02	A	0.00	0.00	0.00	A
18	296.50	-0.83	-0.04	B<	0.43	-0.07	0.00	A	8.30	-0.16	-0.01	B<	15.37	0.41	0.03	B>	0.00	-0.01	0.00	A
19	102.97	-0.50	-0.02	B<	9.00	-0.31	-0.02	B<	35.61	-0.33	-0.02	B<	24.04	0.52	0.03	B>	4.87	0.43	0.01	A
20	2.15	-0.06	0.00	A	6.10	-0.21	-0.02	A	38.26	-0.28	-0.03	B<	0.72	-0.08	-0.01	A	7.63	-0.35	-0.02	B<
21	0.90	0.05	0.00	A	1.05	-0.12	-0.01	A	23.76	0.32	0.02	B>	11.16	0.40	0.02	B>	8.50	0.64	0.02	B>
22	5.18	-0.09	-0.01	A	68.99	0.72	0.06	B>	146.47	0.52	0.03	B>	8.92	0.26	0.02	B>	0.54	0.09	0.01	A
23	17.14	-0.19	-0.01	B<	4.29	-0.20	-0.01	A	61.04	-0.40	-0.03	B<	0.51	-0.07	-0.01	A	1.43	-0.19	-0.01	A
24	47.15	0.41	0.01	B>	8.43	-0.36	-0.01	B<	12.23	0.25	0.01	B>	11.72	0.44	0.02	B>	13.55	-0.74	-0.02	B<
25	0.50	0.03	0.00	A	248.80	-1.56	-0.09	C<	974.79	-1.76	-0.10	C<	106.28	-1.04	-0.06	B<	103.66	-1.63	-0.05	C<
26	39.63	0.27	0.02	B>	0.02	-0.01	0.00	A	0.00	0.00	0.00	A	0.06	0.02	0.00	A	3.93	-0.28	-0.01	A
27	27.04	0.19	0.02	B>	4.21	0.17	0.01	A	104.04	0.43	0.04	B>	0.05	0.02	0.00	A	4.97	0.26	0.02	A
28	7.64	0.12	0.01	B>	36.94	0.61	0.04	B>	0.24	0.03	0.00	A	5.93	0.24	0.02	A	0.23	-0.08	0.00	A
29	7.12	0.10	0.01	B>	6.28	0.20	0.02	A	0.00	0.00	0.00	A	17.60	-0.36	-0.03	B<	16.67	-0.45	-0.04	B<
30	2.51	0.07	0.00	A	4.62	0.21	0.01	A	64.62	-0.38	-0.03	B<	1.06	-0.10	-0.01	A	0.03	-0.03	0.00	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

**Table 9.2.1.12 (continued)**  
**2008 Spring AIMS Differential Item Functioning Reading CRT Grade 6**

Item	Reference: Male N = 41467 Focal: Female N = 39975				Reference: White N = 36570 Focal: African Am. N = 4621				Reference: White N = 36570 Focal: Hispanic N = 33688				Reference: White N = 36570 Focal: Native Am. N = 4253				Reference: White N = 36570 Focal: Asian N = 2352			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	167.45	-0.49	-0.04	B<	0.01	-0.01	0.00	A	0.00	0.00	-0.01	A	0.13	0.03	0.00	A	24.27	0.57	0.05	B>
32	6.37	0.09	0.01	A	0.00	0.00	0.00	A	6.82	-0.11	-0.01	B<	34.16	-0.51	-0.05	B<	0.04	0.03	0.00	A
33	112.03	-0.44	-0.03	B<	0.22	0.04	0.00	A	42.72	0.31	0.02	B>	24.64	0.47	0.04	B>	12.58	0.50	0.03	B>
34	374.10	-0.70	-0.06	B<	1.31	-0.09	-0.01	A	15.90	-0.16	-0.01	B<	1.40	0.10	0.01	A	0.85	0.11	0.01	A
35	1239.28	-1.48	-0.10	B<	4.88	0.20	0.01	A	1.74	0.06	0.01	A	0.84	0.09	0.01	A	16.91	0.60	0.03	B>
36	0.94	-0.04	0.00	A	15.58	-0.35	-0.03	B<	537.36	-1.04	-0.08	B<	59.22	-0.68	-0.06	B<	14.29	-0.51	-0.03	B<
37	151.44	0.51	0.04	B>	8.82	0.28	0.02	B>	0.42	0.03	0.00	A	20.58	-0.41	-0.03	B<	6.68	-0.36	-0.02	B<
38	165.86	0.49	0.04	B>	4.11	0.17	0.01	A	6.05	0.11	0.02	A	7.26	0.23	0.02	B>	0.07	0.04	0.00	A
39	160.53	-0.44	-0.04	B<	0.01	-0.01	0.00	A	4.49	0.08	0.00	A	13.01	-0.30	-0.03	B<	18.56	-0.46	-0.04	B<
40	14.20	0.15	0.01	B>	0.00	-0.01	0.00	A	19.58	0.20	0.02	B>	35.47	0.54	0.04	B>	3.60	0.25	0.02	A
41	21.14	0.18	0.01	B>	2.44	-0.13	-0.01	A	3.74	0.08	0.01	A	4.33	-0.18	-0.01	A	0.32	0.07	0.01	A
42	55.31	0.27	0.02	B>	10.63	0.26	0.02	B>	11.08	-0.14	-0.01	B<	12.80	0.31	0.03	B>	0.18	0.05	0.00	A
43	12.30	0.13	0.01	B>	3.37	0.15	0.01	A	0.17	0.02	0.00	A	0.00	0.00	0.00	A	13.37	-0.40	-0.04	B<
44	41.43	0.24	0.02	B>	0.00	0.00	0.00	A	1.25	-0.05	0.00	A	2.55	-0.14	-0.01	A	1.58	-0.15	-0.01	A
45	26.46	0.18	0.02	B>	0.83	-0.07	-0.01	A	75.04	0.35	0.03	B>	56.50	0.63	0.06	B>	21.37	0.52	0.04	B>
46	3.94	0.09	0.01	A	10.71	-0.30	-0.02	B<	0.91	0.05	0.00	A	21.00	0.45	0.03	B>	6.92	0.41	0.02	B>
47	0.42	0.03	0.00	A	19.40	-0.42	-0.03	B<	3.94	-0.10	-0.01	A	4.12	-0.20	-0.01	A	7.37	-0.43	-0.02	B<
48	201.30	0.55	0.04	B>	2.25	-0.13	-0.01	A	48.22	0.31	0.03	B>	6.90	0.23	0.02	B>	24.26	0.65	0.04	B>
49	246.96	0.69	0.04	B>	1.19	0.11	0.01	A	0.49	0.04	0.00	A	103.20	-0.92	-0.07	B<	0.57	-0.12	-0.01	A
50	44.71	-0.24	-0.02	B<	0.01	0.01	0.00	A	1.01	0.04	0.01	A	7.54	-0.24	-0.02	B<	0.53	0.08	0.01	A
51	15.13	0.15	0.01	B>	5.54	0.20	0.02	A	40.17	0.28	0.02	B>	48.77	-0.60	-0.06	B<	4.98	-0.27	-0.02	A
52	120.59	0.55	0.03	B>	1.85	-0.15	-0.01	A	3.69	-0.11	-0.01	A	139.42	-1.17	-0.08	B<	2.40	0.30	0.01	A
53	95.62	-0.36	-0.03	B<	0.12	-0.03	0.00	A	14.82	0.16	0.02	B>	26.71	0.45	0.04	B>	11.15	0.40	0.03	B>
54	0.02	0.01	0.00	A	3.27	-0.15	-0.01	A	14.76	0.16	0.02	B>	33.64	0.50	0.04	B>	17.39	0.51	0.04	B>

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

**Table 9.2.1.13**  
**2008 Spring AIMS Differential Item Functioning Reading CRT Grade 7**

Item	Reference: Male N = 41264 Focal: Female N = 39400				Reference: White N = 36604 Focal: African Am. N = 4531				Reference: White N = 36604 Focal: Hispanic N = 32914				Reference: White N = 36604 Focal: Native Am. N = 4235				Reference: White N = 36604 Focal: Asian N = 2386			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	25.60	0.33	0.01	B>	5.61	-0.33	-0.01	A	10.73	-0.25	-0.01	B<	2.51	-0.22	-0.01	A	6.61	-0.58	-0.01	A
2	321.83	0.65	0.06	B>	4.88	-0.18	-0.02	A	115.18	-0.44	-0.04	B<	12.08	-0.29	-0.03	B<	9.14	-0.35	-0.03	B<
3	546.16	-1.23	-0.05	B<	19.46	-0.50	-0.02	B<	349.96	-1.14	-0.06	B<	162.85	-1.33	-0.08	B<	23.46	-0.92	-0.02	B<
4	261.40	-0.71	-0.04	B<	78.86	-0.83	-0.06	B<	543.90	-1.15	-0.09	B<	322.36	-1.64	-0.13	C<	58.65	-1.08	-0.05	B<
5	2.78	-0.07	0.00	A	0.26	0.05	0.00	A	59.68	0.38	0.03	B>	9.87	0.30	0.02	B>	35.76	0.96	0.04	B>
6	56.44	-0.31	-0.02	B<	0.34	-0.05	0.00	A	33.56	-0.27	-0.02	B<	2.14	-0.13	-0.01	A	20.61	-0.62	-0.03	B<
7	0.45	0.04	0.00	A	5.57	0.30	0.01	A	5.84	-0.16	-0.01	A	6.22	-0.29	-0.01	A	0.29	-0.12	0.00	A
8	13.61	-0.14	-0.01	B<	5.56	-0.20	-0.02	A	10.52	-0.14	-0.01	B<	18.86	-0.37	-0.03	B<	0.43	0.09	0.01	A
9	19.30	-0.20	-0.01	B<	11.24	0.34	0.02	B>	26.05	-0.26	-0.02	B<	32.50	-0.53	-0.04	B<	0.00	-0.02	0.00	A
10	148.99	-0.56	-0.03	B<	60.03	-0.74	-0.05	B<	223.48	-0.77	-0.05	B<	86.35	-0.89	-0.06	B<	5.97	-0.40	-0.02	A
11	34.49	-0.31	-0.01	B<	40.89	-0.70	-0.03	B<	96.71	-0.59	-0.03	B<	30.51	-0.60	-0.03	B<	44.72	-1.13	-0.04	B<
12	59.16	0.33	0.02	B>	0.83	-0.08	-0.01	A	13.67	0.18	0.01	B>	0.11	0.03	0.00	A	2.45	0.23	0.01	A
13	30.38	-0.20	-0.02	B<	18.78	-0.35	-0.03	B<	687.62	-1.06	-0.09	B<	244.01	-1.35	-0.12	B<	34.93	-0.66	-0.06	B<
14	36.32	-0.28	-0.01	B<	12.28	0.35	0.02	B>	108.35	0.55	0.03	B>	15.39	0.40	0.03	B>	5.30	0.38	0.02	A
15	138.68	-0.48	-0.03	B<	6.19	-0.22	-0.02	A	11.13	-0.15	-0.02	B<	0.22	0.04	0.00	A	3.12	-0.24	-0.01	A
16	12.08	-0.21	-0.01	B<	2.76	-0.21	-0.01	A	4.73	-0.15	-0.01	A	0.85	0.12	0.00	A	1.08	0.24	0.01	A
17	7.61	-0.10	-0.01	B<	10.26	0.27	0.02	B>	212.86	0.63	0.05	B>	30.00	0.48	0.04	B>	15.97	0.47	0.04	B>
18	5.55	-0.09	-0.01	A	19.07	-0.36	-0.03	B<	10.15	-0.14	0.00	B<	233.83	-1.27	-0.11	B<	1.80	-0.17	-0.01	A
19	0.47	0.03	0.00	A	0.06	0.02	0.00	A	9.44	0.13	0.01	B>	0.40	-0.06	-0.01	A	8.05	0.35	0.02	B>
20	68.40	0.29	0.03	B>	3.34	0.15	0.01	A	1.80	0.05	0.00	A	1.38	-0.10	-0.01	A	9.31	0.34	0.03	B>
21	0.46	0.03	0.00	A	1.38	-0.11	-0.01	A	0.01	0.01	0.01	A	2.74	-0.15	-0.01	A	5.84	-0.35	-0.02	A
22	438.13	0.84	0.06	B>	11.30	-0.29	-0.02	B<	1.05	-0.05	-0.01	A	1.37	0.11	0.01	A	4.27	-0.26	-0.02	A
23	46.56	0.24	0.02	B>	56.59	0.60	0.06	B>	132.32	0.46	0.05	B>	46.32	0.57	0.05	B>	10.96	0.37	0.03	B>
24	261.69	-0.69	-0.04	B<	14.22	-0.35	-0.02	B<	732.74	-1.28	-0.10	B<	97.63	-0.90	-0.07	B<	59.68	-1.06	-0.05	B<
25	0.35	-0.02	0.00	A	19.60	0.38	0.03	B>	102.87	0.44	0.04	B>	17.33	0.36	0.03	B>	0.66	0.10	0.01	A
26	0.37	0.03	0.00	A	0.12	0.04	0.00	A	11.51	-0.19	-0.01	B<	33.41	-0.59	-0.04	B<	7.67	-0.48	-0.02	B<
27	9.35	-0.13	-0.01	B<	43.14	0.65	0.04	B>	286.13	0.85	0.05	B>	11.81	0.33	0.02	B>	5.45	-0.31	-0.02	A
28	36.18	0.22	0.02	B>	6.11	0.21	0.02	A	101.30	0.43	0.03	B>	50.48	0.61	0.05	B>	32.75	0.68	0.05	B>
29	135.88	0.50	0.03	B>	19.99	0.43	0.03	B>	0.13	-0.02	0.00	A	2.26	-0.14	-0.01	A	0.01	0.02	0.00	A
30	159.53	0.54	0.04	B>	0.13	-0.04	0.00	A	0.00	0.00	0.00	A	1.12	0.10	0.01	A	1.36	0.17	0.01	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)

**Table 9.2.1.13 (continued)**  
**2008 Spring AIMS Differential Item Functioning Reading CRT Grade 7**

Item	Reference: Male N = 41264 Focal: Female N = 39400				Reference: White N = 36604 Focal: African Am. N = 4531				Reference: White N = 36604 Focal: Hispanic N = 32914				Reference: White N = 36604 Focal: Native Am. N = 4235				Reference: White N = 36604 Focal: Asian N = 2386			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	6.23	-0.10	-0.01	A	0.51	0.06	0.00	A	47.95	0.31	0.02	B>	1.15	-0.10	-0.01	A	1.13	0.14	0.01	A
32	92.17	0.46	0.02	B>	0.86	-0.09	-0.01	A	112.54	0.57	0.04	B>	8.41	0.29	0.02	B>	11.60	0.60	0.02	B>
33	6.39	-0.09	-0.01	A	13.36	-0.30	-0.03	B<	3.02	-0.07	-0.01	A	3.79	-0.17	-0.02	A	7.18	-0.30	-0.02	B<
34	89.32	0.40	0.03	B>	0.06	-0.02	0.00	A	12.60	-0.17	-0.01	B<	4.18	-0.19	-0.01	A	4.44	-0.30	-0.02	A
35	122.57	0.47	0.03	B>	4.06	0.19	0.01	A	57.91	0.37	0.03	B>	30.84	0.51	0.04	B>	3.88	0.29	0.01	A
36	717.72	-1.05	-0.08	B<	2.71	-0.14	-0.01	A	143.37	-0.52	-0.04	B<	26.58	-0.49	-0.04	B<	17.50	-0.49	-0.04	B<
37	134.32	0.42	0.04	B>	2.78	0.14	0.01	A	3.91	0.08	0.01	A	1.43	-0.10	-0.01	A	15.74	0.45	0.04	B>
38	44.96	-0.26	-0.02	B<	0.37	0.05	0.01	A	0.07	-0.01	0.01	A	2.68	-0.14	-0.01	A	2.57	-0.21	-0.01	A
39	125.29	-0.41	-0.04	B<	6.14	-0.20	-0.02	A	47.77	-0.28	-0.02	B<	0.01	0.01	0.00	A	1.21	-0.12	-0.01	A
40	57.47	-0.26	-0.03	B<	38.01	0.49	0.05	B>	5.12	0.09	0.01	A	164.88	1.06	0.10	B>	0.92	-0.10	-0.01	A
41	20.20	0.19	0.01	B>	1.60	0.12	0.01	A	84.24	0.44	0.04	B>	484.45	2.34	0.16	C>	11.91	0.52	0.03	B>
42	55.22	0.33	0.02	B>	6.93	0.25	0.02	B>	25.17	0.25	0.02	B>	103.08	1.02	0.07	B>	4.85	0.35	0.02	A
43	58.37	0.31	0.02	B>	7.99	0.26	0.02	B>	24.43	0.23	0.02	B>	4.53	0.19	0.02	A	0.12	0.05	0.00	A
44	232.50	0.72	0.04	B>	0.11	0.04	0.00	A	56.14	0.40	0.02	B>	17.04	0.43	0.03	B>	1.56	0.21	0.01	A
45	102.81	0.40	0.03	B>	0.15	0.03	0.00	A	12.20	0.16	0.02	B>	12.64	-0.31	-0.03	B<	1.07	-0.13	-0.01	A
46	0.32	-0.02	0.00	A	35.82	0.53	0.04	B>	383.23	0.91	0.07	B>	105.08	0.93	0.08	B>	14.35	0.50	0.03	B>
47	4.48	0.11	0.00	A	6.84	-0.28	-0.02	B<	29.13	-0.31	-0.02	B<	0.00	0.01	0.00	A	0.11	-0.07	0.00	A
48	45.80	-0.26	-0.02	B<	60.35	0.66	0.06	B>	34.54	0.25	0.02	B>	2.97	0.15	0.01	A	25.04	0.63	0.04	B>
49	13.19	0.15	0.01	B>	0.30	-0.05	0.00	A	0.64	0.04	0.01	A	2.06	0.13	0.01	A	0.13	0.05	0.00	A
50	193.39	0.65	0.03	B>	0.78	-0.09	-0.01	A	7.22	0.14	0.01	B>	10.11	-0.31	-0.02	B<	2.24	0.25	0.01	A
51	56.26	-0.29	-0.02	B<	11.39	-0.29	-0.02	B<	42.43	-0.28	-0.02	B<	0.35	-0.05	0.00	A	0.27	0.07	0.00	A
52	25.06	0.23	0.01	B>	0.02	0.01	0.00	A	90.67	0.49	0.03	B>	63.16	0.80	0.06	B>	28.49	0.89	0.04	B>
53	29.75	-0.24	-0.02	B<	12.54	-0.33	-0.02	B<	0.30	0.03	0.01	A	22.75	0.46	0.04	B>	0.33	0.09	0.00	A
54	51.44	-0.27	-0.02	B<	4.29	-0.17	-0.02	A	20.44	0.19	0.01	B>	44.88	0.58	0.05	B>	0.95	-0.12	-0.01	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

**Table 9.2.1.14**  
**2008 Spring AIMS Differential Item Functioning Reading CRT Grade 8**

Item	Reference: Male N = 40911 Focal: Female N = 39456				Reference: White N = 36671 Focal: African Am. N = 4593				Reference: White N = 36671 Focal: Hispanic N = 32512				Reference: White N = 36671 Focal: Native Am. N = 4379				Reference: White N = 36671 Focal: Asian N = 2236			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	113.91	0.60	0.02	B>	25.74	-0.59	-0.03	B<	73.79	-0.56	-0.03	B<	2.71	-0.20	-0.01	A	35.60	-1.11	-0.03	B<
2	105.80	0.37	0.03	B>	88.56	0.76	0.07	B>	256.72	0.66	0.06	B>	104.03	0.85	0.08	B>	55.76	0.92	0.07	B>
3	78.45	0.34	0.03	B>	1.11	-0.09	-0.01	A	4.11	-0.09	-0.01	A	61.41	-0.66	-0.06	B<	2.40	0.21	0.01	A
4	100.96	-0.36	-0.03	B<	21.22	-0.38	-0.03	B<	105.78	-0.42	-0.03	B<	9.98	-0.27	-0.02	B<	6.74	-0.29	-0.03	B<
5	6.57	-0.11	-0.01	A	31.90	-0.49	-0.04	B<	45.42	-0.31	-0.03	B<	43.17	-0.58	-0.05	B<	17.71	-0.56	-0.03	B<
6	5.84	0.08	0.01	A	129.75	0.90	0.09	B>	2.11	0.06	-0.01	A	0.26	-0.04	-0.01	A	43.02	0.73	0.07	B>
7	10.28	0.15	0.01	B>	3.86	0.20	0.01	A	39.10	0.32	0.03	B>	16.25	0.40	0.03	B>	10.58	0.56	0.02	B>
8	20.01	-0.16	-0.02	B<	0.07	-0.02	0.00	A	15.72	0.16	0.02	B>	25.36	0.41	0.04	B>	9.91	0.36	0.03	B>
9	309.94	-0.68	-0.06	B<	7.55	-0.23	-0.02	B<	258.35	-0.69	-0.05	B<	24.69	-0.42	-0.04	B<	23.34	-0.61	-0.04	B<
10	104.79	-0.44	-0.03	B<	32.82	-0.51	-0.04	B<	15.76	-0.19	-0.01	B<	4.16	-0.19	-0.02	A	0.54	0.12	0.01	A
11	93.46	-0.38	-0.03	B<	0.97	0.09	0.01	A	1.51	-0.05	0.00	A	49.97	0.63	0.05	B>	2.17	0.20	0.01	A
12	0.07	-0.01	0.00	A	2.04	-0.12	-0.01	A	66.66	-0.35	-0.03	B<	47.36	-0.59	-0.05	B<	62.45	-0.93	-0.07	B<
13	1.67	-0.05	0.00	A	7.12	0.22	0.02	B>	44.16	0.28	0.02	B>	26.90	0.44	0.04	B>	45.57	0.87	0.06	B>
14	8.38	0.14	0.01	B>	2.02	0.15	0.01	A	27.71	-0.30	-0.01	B<	69.22	-0.80	-0.05	B<	1.49	-0.23	-0.01	A
15	418.55	-0.77	-0.07	B<	1.04	0.09	0.01	A	6.47	0.11	0.01	A	6.18	0.22	0.02	A	8.37	-0.33	-0.03	B<
16	38.38	-0.29	-0.02	B<	0.10	0.03	0.00	A	3.12	-0.09	-0.01	A	2.00	-0.14	-0.01	A	1.41	0.21	0.01	A
17	160.26	-0.59	-0.03	B<	3.42	-0.19	-0.01	A	0.00	0.00	0.00	A	12.48	0.36	0.02	B>	0.11	0.06	0.00	A
18	13.52	0.14	0.01	B>	2.91	0.14	0.01	A	34.40	0.26	0.02	B>	15.05	0.33	0.03	B>	1.01	-0.13	-0.01	A
19	10.51	-0.17	-0.01	B<	33.34	-0.61	-0.03	B<	66.70	-0.48	-0.03	B<	6.12	-0.26	-0.02	A	7.07	-0.52	-0.02	B<
20	2.06	-0.06	0.00	A	52.14	-0.64	-0.05	B<	396.83	-0.91	-0.07	B<	212.89	-1.23	-0.10	B<	97.41	-1.29	-0.08	B<
21	56.01	0.54	0.01	B>	1.69	-0.20	-0.01	A	5.12	-0.19	0.00	A	98.73	-1.26	-0.05	B<	2.90	-0.48	-0.01	A
22	1.27	-0.04	0.00	A	7.05	-0.22	-0.02	B<	49.40	-0.29	-0.03	B<	23.18	-0.41	-0.03	B<	2.22	-0.17	-0.02	A
23	397.52	-1.07	-0.04	B<	9.11	-0.35	-0.02	B<	81.28	-0.55	-0.03	B<	26.42	-0.56	-0.03	B<	43.05	-1.15	-0.04	B<
24	786.76	-1.03	-0.09	B<	99.07	-0.80	-0.07	B<	276.58	-0.68	-0.07	B<	4.22	-0.17	-0.02	A	26.28	-0.60	-0.05	B<
25	24.01	0.20	0.01	B>	0.05	0.02	0.00	A	3.94	-0.09	-0.01	A	28.71	-0.47	-0.04	B<	0.01	0.02	0.00	A
26	33.00	-0.26	-0.01	B<	4.22	-0.20	-0.01	A	1.99	0.07	0.00	A	0.03	0.02	0.00	A	0.13	-0.06	0.00	A
27	341.93	-0.86	-0.05	B<	8.24	-0.29	-0.02	B<	571.01	-1.23	-0.08	B<	0.88	0.10	0.01	A	9.68	-0.51	-0.02	B<
28	224.22	0.62	0.04	B>	0.40	0.06	0.00	A	4.89	-0.10	-0.01	A	5.03	0.21	0.02	A	1.94	0.20	0.01	A
29	44.27	0.25	0.02	B>	0.12	0.03	0.00	A	20.26	0.19	0.02	B>	7.50	-0.23	-0.02	B<	15.95	-0.46	-0.04	B<
30	77.64	0.36	0.03	B>	0.28	0.05	0.00	A	19.29	0.20	0.02	B>	125.20	1.05	0.08	B>	2.63	-0.22	-0.01	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

(table continues)



**Table 9.2.1.14 (continued)**  
**2008 Spring AIMS Differential Item Functioning Reading CRT Grade 8**

Item	Reference: Male N = 40911 Focal: Female N = 39456				Reference: White N = 36671 Focal: African Am. N = 4593				Reference: White N = 36671 Focal: Hispanic N = 32512				Reference: White N = 36671 Focal: Native Am. N = 4379				Reference: White N = 36671 Focal: Asian N = 2236			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	132.00	0.42	0.04	B>	0.11	0.03	0.00	A	11.00	-0.14	-0.01	B<	27.57	-0.44	-0.04	B<	0.80	-0.10	-0.01	A
32	305.28	-0.89	-0.04	B<	17.13	-0.45	-0.02	B<	271.20	-0.95	-0.05	B<	83.48	-0.92	-0.06	B<	0.02	0.04	0.00	A
33	124.13	-0.43	-0.04	B<	17.10	-0.35	-0.03	B<	2.19	0.06	0.01	A	0.30	-0.05	0.00	A	0.71	0.11	0.01	A
34	71.40	0.44	0.02	B>	18.63	-0.48	-0.02	B<	45.46	-0.41	-0.02	B<	131.20	-1.16	-0.07	B<	0.98	-0.21	-0.01	A
35	36.06	0.23	0.02	B>	16.94	0.36	0.03	B>	142.43	0.52	0.04	B>	31.89	0.49	0.04	B>	9.51	0.39	0.03	B>
36	15.07	0.16	0.01	B>	18.65	-0.38	-0.03	B<	105.57	-0.46	-0.03	B<	27.14	-0.46	-0.04	B<	0.91	-0.13	-0.01	A
37	60.81	0.28	0.03	B>	4.54	0.17	0.02	A	6.77	-0.11	-0.01	B<	63.09	0.67	0.06	B>	2.35	0.17	0.02	A
38	3.47	0.08	0.01	A	3.21	0.16	0.01	A	87.42	0.45	0.03	B>	46.15	0.63	0.05	B>	24.77	0.80	0.04	B>
39	35.77	0.21	0.02	B>	25.74	-0.40	-0.04	B<	0.46	-0.03	0.01	A	2.39	-0.13	-0.01	A	7.73	-0.32	-0.03	B<
40	76.06	0.32	0.03	B>	9.23	0.25	0.02	B>	142.66	0.49	0.05	B>	63.83	0.66	0.06	B>	14.83	0.47	0.04	B>
41	233.59	-0.58	-0.05	B<	27.51	-0.44	-0.04	B<	9.37	-0.13	-0.01	B<	20.14	-0.39	-0.04	B<	0.44	0.08	0.01	A
42	13.08	0.19	0.01	B>	7.07	0.30	0.01	B>	41.69	0.38	0.03	B>	1.20	0.12	0.01	A	1.01	-0.19	-0.01	A
43	200.73	-0.52	-0.05	B<	4.93	0.18	0.02	A	14.56	0.16	0.01	B>	0.01	0.01	0.00	A	0.14	-0.04	0.00	A
44	0.84	-0.04	0.00	A	8.90	0.25	0.02	B>	31.19	0.24	0.03	B>	2.75	0.14	0.01	A	13.25	0.48	0.03	B>
45	8.95	-0.11	-0.01	B<	48.93	0.56	0.05	B>	197.67	0.57	0.05	B>	4.37	0.17	0.02	A	16.11	0.45	0.04	B>
46	35.86	0.24	0.02	B>	0.11	-0.03	0.00	A	42.62	0.30	0.03	B>	62.94	0.71	0.06	B>	2.21	0.21	0.01	A
47	0.65	-0.03	0.00	A	4.35	-0.19	-0.01	A	0.43	0.03	0.00	A	2.70	0.15	0.01	A	1.50	-0.17	-0.01	A
48	241.42	0.72	0.04	B>	2.77	0.17	0.01	A	83.56	-0.48	-0.02	B<	92.52	-0.89	-0.06	B<	0.02	0.03	0.00	A
49	264.40	0.75	0.04	B>	32.96	0.59	0.04	B>	114.81	0.56	0.04	B>	1.82	-0.13	-0.01	A	0.77	0.15	0.01	A
50	116.87	0.42	0.03	B>	16.47	0.35	0.03	B>	192.92	0.61	0.05	B>	87.01	0.83	0.07	B>	13.95	0.49	0.03	B>
51	173.42	0.57	0.04	B>	10.95	0.32	0.02	B>	62.15	0.39	0.03	B>	21.71	0.43	0.03	B>	1.46	0.19	0.01	A
52	532.84	0.95	0.07	B>	8.26	0.26	0.02	B>	308.30	0.82	0.06	B>	102.42	0.91	0.07	B>	10.72	0.48	0.03	B>
53	44.65	0.28	0.02	B>	40.83	0.60	0.04	B>	31.26	0.27	0.02	B>	23.68	-0.44	-0.04	B<	2.18	-0.22	-0.01	A
54	56.80	0.31	0.02	B>	7.68	0.25	0.02	B>	112.39	0.50	0.04	B>	69.51	0.76	0.06	B>	0.08	-0.05	0.00	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items and NRT items.

**Table 9.2.1.15**  
**2008 Spring AIMS Differential Item Functioning Reading CRT High School**

Item	Reference: Male N = 37953 Focal: Female N = 37395				Reference: White N = 35986 Focal: African Am. N = 4292				Reference: White N = 35986 Focal: Hispanic N = 28577				Reference: White N = 35986 Focal: Native Am. N = 4458				Reference: White N = 35986 Focal: Asian N = 2052			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	15.75	0.17	0.01	B>	37.79	-0.55	-0.04	B<	134.28	-0.56	-0.05	B<	8.43	-0.26	-0.02	B<	1.26	-0.17	-0.01	A
2	64.23	0.32	0.03	B>	3.09	-0.15	-0.01	A	3.51	0.09	0.00	A	18.50	-0.37	-0.04	B<	20.05	-0.58	-0.04	B<
3	5.11	-0.11	-0.01	A	15.05	-0.42	-0.02	B<	56.07	-0.44	-0.03	B<	0.81	-0.09	-0.01	A	0.00	0.01	0.00	A
4	68.60	0.36	0.02	B>	0.77	-0.09	-0.01	A	49.02	-0.35	-0.03	B<	10.80	-0.30	-0.03	B<	0.13	-0.06	0.00	A
5	179.93	0.51	0.04	B>	14.38	0.32	0.03	B>	47.29	0.31	0.02	B>	22.14	0.40	0.03	B>	34.11	0.78	0.06	B>
6	539.66	-0.93	-0.07	B<	118.25	-0.95	-0.08	B<	555.33	-1.06	-0.09	B<	192.13	-1.25	-0.10	B<	18.77	-0.56	-0.04	B<
7	0.78	0.05	0.00	A	0.31	-0.06	-0.01	A	42.29	0.40	0.01	B>	22.44	0.53	0.03	B>	8.77	0.55	0.02	B>
8	219.46	-0.62	-0.04	B<	2.77	-0.16	-0.01	A	99.30	-0.48	-0.05	B<	9.42	-0.28	-0.03	B<	12.72	-0.49	-0.03	B<
9	3.15	0.07	0.01	A	0.58	0.07	0.01	A	9.20	0.15	0.01	B>	2.15	0.13	0.01	A	1.44	-0.17	-0.01	A
10	4.36	-0.08	-0.01	A	12.90	0.30	0.03	B>	2.57	-0.07	-0.01	A	11.98	-0.32	-0.03	B<	2.26	-0.17	-0.02	A
11	17.59	0.17	0.01	B>	12.34	0.32	0.03	B>	33.03	-0.27	-0.02	B<	10.34	-0.28	-0.02	B<	3.37	-0.25	-0.02	A
12	7.52	0.16	0.01	B>	57.43	-0.92	-0.04	B<	69.17	-0.59	-0.03	B<	106.42	-1.13	-0.06	B<	16.20	-0.87	-0.02	B<
13	52.21	0.27	0.03	B>	2.76	0.14	0.01	A	15.33	0.17	0.02	B>	2.18	0.13	0.01	A	10.91	0.37	0.04	B>
14	0.55	0.03	0.00	A	2.74	0.14	0.01	A	64.00	-0.35	-0.02	B<	3.06	-0.15	-0.01	A	4.90	0.27	0.02	A
15	0.12	-0.01	0.00	A	0.86	-0.08	-0.01	A	13.38	0.16	0.01	B>	21.99	0.40	0.03	B>	19.96	0.50	0.05	B>
16	124.58	-0.45	-0.04	B<	15.18	-0.34	-0.03	B<	0.70	-0.04	0.00	A	4.21	0.18	0.01	A	0.66	-0.12	-0.01	A
17	16.68	0.15	0.01	B>	10.28	0.27	0.02	B>	14.82	0.17	0.01	B>	20.14	0.39	0.03	B>	0.05	-0.03	0.00	A
18	387.21	-0.76	-0.07	B<	0.41	-0.05	0.00	A	20.08	0.20	0.01	B>	2.63	-0.14	-0.01	A	4.93	-0.28	-0.02	A
19	248.19	-0.65	-0.05	B<	4.69	-0.19	-0.01	A	4.69	0.10	0.01	A	0.26	-0.05	0.00	A	3.31	0.26	0.02	A
20	34.20	-0.40	-0.01	B<	2.34	-0.22	-0.01	A	32.39	0.46	0.02	B>	52.30	1.02	0.04	B>	6.14	0.74	0.01	A
21	42.88	-0.29	-0.02	B<	6.07	-0.24	-0.02	A	7.82	-0.14	-0.01	B<	13.25	-0.34	-0.03	B<	1.11	-0.17	-0.01	A
22	1.45	0.08	0.00	A	0.01	0.02	0.00	A	78.75	0.68	0.03	B>	24.60	0.61	0.03	B>	17.39	1.10	0.02	B>
23	124.00	0.55	0.03	B>	0.13	0.04	0.00	A	0.03	0.01	0.00	A	30.07	0.56	0.04	B>	13.88	-0.63	-0.03	B<
24	203.48	0.58	0.04	B>	60.39	0.72	0.06	B>	106.91	0.49	0.03	B>	1.50	-0.11	-0.01	A	3.35	-0.24	-0.02	A
25	17.37	0.17	0.01	B>	0.12	0.03	0.00	A	0.26	0.02	-0.01	A	79.14	-0.80	-0.07	B<	53.93	-0.92	-0.07	B<
26	3175.03	-2.43	-0.17	C<	27.32	-0.47	-0.04	B<	309.84	-0.83	-0.06	B<	232.25	-1.32	-0.12	B<	9.20	-0.44	-0.03	B<
27	185.60	0.86	0.03	B>	12.72	0.49	0.02	B>	84.76	0.69	0.03	B>	0.58	0.09	0.01	A	0.71	-0.20	0.00	A
28	45.95	-0.31	-0.02	B<	0.42	0.06	0.01	A	58.34	-0.39	-0.03	B<	4.88	-0.20	-0.01	A	1.93	-0.23	-0.01	A
29	96.27	0.58	0.02	B>	0.21	-0.06	0.00	A	172.23	0.91	0.05	B>	30.00	0.65	0.04	B>	11.05	0.76	0.02	B>
30	1.41	-0.09	0.00	A	0.00	-0.02	0.00	A	7.28	-0.25	-0.01	B<	4.42	-0.29	-0.01	A	6.08	-0.72	-0.01	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items.

(table continues)

**Table 9.2.1.15 (continued)**  
**2008 Spring AIMS Differential Item Functioning Reading CRT High School**

Item	Reference: Male N = 37953 Focal: Female N = 37395				Reference: White N = 35986 Focal: African Am. N = 4292				Reference: White N = 35986 Focal: Hispanic N = 28577				Reference: White N = 35986 Focal: Native Am. N = 4458				Reference: White N = 35986 Focal: Asian N = 2052			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	501.31	-0.87	-0.07	B<	0.00	0.01	0.00	A	15.25	0.18	0.01	B>	1.12	-0.09	-0.01	A	0.99	0.13	0.01	A
32	21.36	0.18	0.02	B>	26.10	0.43	0.04	B>	1.14	0.05	0.00	A	0.01	-0.01	0.00	A	8.00	-0.33	-0.03	B<
33	68.14	-0.35	-0.02	B<	2.22	-0.14	-0.01	A	28.07	-0.25	-0.01	B<	5.77	0.22	0.02	A	0.39	0.10	0.01	A
34	0.35	-0.03	0.00	A	26.17	-0.47	-0.04	B<	0.92	0.05	0.01	A	77.80	0.82	0.07	B>	1.98	0.22	0.01	A
35	6.82	0.12	0.01	B>	30.93	0.56	0.04	B>	42.93	0.34	0.03	B>	29.51	0.53	0.04	B>	9.01	0.48	0.02	B>
36	218.68	-0.62	-0.04	B<	21.31	-0.42	-0.03	B<	68.51	-0.39	-0.02	B<	21.32	-0.42	-0.03	B<	0.26	-0.08	0.00	A
37	227.94	-0.56	-0.05	B<	1.12	0.09	0.01	A	24.37	0.21	0.01	B>	1.61	-0.11	-0.01	A	0.06	-0.03	0.00	A
38	24.31	0.23	0.01	B>	10.22	-0.31	-0.02	B<	18.86	0.23	0.02	B>	23.93	0.46	0.04	B>	0.96	0.16	0.01	A
39	33.29	0.23	0.02	B>	0.46	-0.06	0.00	A	42.04	0.31	0.03	B>	22.12	0.41	0.04	B>	24.70	-0.65	-0.04	B<
40	81.33	-0.42	-0.02	B<	0.58	0.08	0.00	A	30.62	0.30	0.02	B>	4.50	0.20	0.02	A	2.83	-0.28	-0.01	A
41	132.48	0.43	0.04	B>	31.14	0.48	0.04	B>	7.09	0.12	0.01	B>	2.93	-0.14	-0.01	A	21.72	-0.54	-0.05	B<
42	8.43	0.11	0.01	B>	0.05	0.02	0.00	A	20.05	-0.20	-0.02	B<	0.29	0.05	0.00	A	26.61	0.69	0.05	B>
43	46.46	0.29	0.02	B>	50.72	0.67	0.05	B>	79.87	0.43	0.03	B>	14.01	0.34	0.03	B>	16.00	0.59	0.03	B>
44	10.07	0.13	0.01	B>	3.93	-0.18	-0.01	A	6.37	-0.12	0.00	A	8.84	-0.30	-0.02	B<	0.39	-0.08	-0.01	A
45	86.64	-0.35	-0.03	B<	14.32	0.32	0.03	B>	1.05	-0.05	-0.01	A	5.58	-0.20	-0.02	A	0.57	0.09	0.01	A
46	5.54	0.09	0.01	A	8.13	0.25	0.02	B>	2.25	0.07	0.01	A	21.07	0.40	0.04	B>	11.07	0.45	0.03	B>
47	139.06	0.69	0.02	B>	6.31	0.31	0.02	A	12.31	0.24	0.01	B>	67.48	0.97	0.05	B>	20.33	1.12	0.03	B>
48	228.91	0.80	0.04	B>	0.83	0.11	0.01	A	28.61	-0.33	-0.02	B<	0.00	0.01	0.00	A	4.76	-0.42	-0.01	A
49	291.03	0.70	0.05	B>	5.08	-0.21	-0.02	A	50.33	-0.33	-0.02	B<	3.43	-0.17	-0.01	A	0.00	-0.01	0.00	A
50	343.95	0.76	0.06	B>	0.03	-0.02	0.00	A	13.47	0.17	0.01	B>	14.54	-0.36	-0.02	B<	3.23	0.23	0.02	A
51	439.12	0.91	0.06	B>	0.00	-0.01	0.00	A	12.58	0.18	0.01	B>	25.80	0.46	0.04	B>	7.28	0.40	0.02	B>
52	247.84	0.57	0.05	B>	0.28	-0.04	0.00	A	1.76	0.06	0.01	A	16.77	0.34	0.03	B>	5.92	0.29	0.03	A
53	116.63	0.43	0.03	B>	8.62	-0.26	-0.02	B<	54.96	0.34	0.04	B>	19.13	0.39	0.03	B>	3.37	-0.24	-0.02	A
54	36.26	-0.24	-0.02	B<	10.39	0.29	0.02	B>	31.66	0.26	0.02	B>	0.66	-0.08	-0.01	A	24.50	0.63	0.05	B>

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to field test items.

**Table 9.2.1.16**  
**2008 Spring AIMS Differential Item Functioning Science CRT Grade 4 Form A**

Item	Reference: Male N = 19845 Focal: Female N = 19049				Reference: White N = 16981 Focal: African Am. N = 2232				Reference: White N = 16981 Focal: Hispanic N = 16616				Reference: White N = 16981 Focal: Native Am. N = 1949				Reference: White N = 16981 Focal: Asian N = 1127			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	0.89	0.10	0.00	A	3.31	0.41	0.01	A	5.04	0.29	0.01	A	0.94	-0.21	-0.01	A	0.13	-0.18	0.00	A
2	158.03	-0.74	-0.05	B<	2.11	0.20	0.01	A	4.13	-0.14	-0.02	A	3.30	-0.25	-0.02	A	0.16	-0.08	-0.01	A
3	7.40	-0.15	-0.01	B<	1.66	-0.16	-0.01	A	0.25	0.03	0.00	A	8.03	-0.37	-0.04	B<	2.32	0.29	0.02	A
4	7.01	0.23	0.01	B>	2.33	0.29	0.01	A	2.96	0.18	0.01	A	43.37	-1.10	-0.06	B<	1.95	-0.44	-0.01	A
5	3.87	-0.13	-0.01	A	2.13	-0.21	-0.01	A	68.61	-0.62	-0.05	B<	7.75	0.42	0.03	B>	4.22	-0.44	-0.02	A
6	23.32	0.27	0.02	B>	22.40	0.62	0.05	B>	3.88	0.13	0.01	A	14.64	-0.49	-0.04	B<	1.63	-0.23	-0.02	A
7	47.49	0.52	0.02	B>	0.60	0.13	0.01	A	29.06	0.48	0.02	B>	30.34	0.94	0.05	B>	4.13	0.60	0.02	A
8	53.97	0.38	0.03	B>	8.90	0.36	0.03	B>	19.69	0.27	0.02	B>	0.24	0.07	0.00	A	0.54	0.13	0.01	A
9	252.80	-1.10	-0.06	B<	0.72	-0.14	-0.01	A	155.42	-1.02	-0.07	B<	23.14	-0.72	-0.05	B<	9.16	-0.74	-0.03	B<
10	32.03	0.74	0.01	B>	4.91	0.60	0.01	A	59.06	1.18	0.02	B>	39.92	1.95	0.04	C>	0.03	0.12	0.00	A
11	37.58	0.62	0.01	B>	7.02	0.59	0.02	B>	68.80	1.00	0.03	B>	28.01	1.27	0.04	B>	31.22	-1.45	-0.04	B<
12	1.74	-0.08	-0.01	A	1.42	0.16	0.01	A	9.92	0.21	0.01	B>	50.56	1.00	0.08	B>	1.33	-0.22	-0.01	A
13	38.86	0.41	0.02	B>	6.80	0.37	0.03	B>	11.69	0.26	0.02	B>	0.48	-0.11	-0.01	A	1.47	0.29	0.01	A
14	6.34	0.20	0.01	A	0.49	0.13	0.01	A	0.76	0.09	0.00	A	0.02	0.03	0.00	A	1.01	0.32	0.01	A
15	13.53	0.23	0.01	B>	6.46	0.37	0.02	A	8.46	0.22	0.01	B>	7.06	0.40	0.03	B>	9.95	-0.61	-0.03	B<
16	9.16	-0.17	-0.01	B<	15.37	-0.49	-0.04	B<	16.46	-0.26	-0.02	B<	4.92	-0.30	-0.03	A	6.92	-0.50	-0.03	B<
17	27.40	0.29	0.02	B>	0.08	0.04	0.00	A	4.75	0.14	0.02	A	19.45	0.58	0.05	B>	0.47	-0.13	-0.01	A
18	12.89	-0.24	-0.01	B<	23.47	-0.69	-0.04	B<	125.51	-0.87	-0.06	B<	24.41	-0.72	-0.05	B<	4.63	-0.50	-0.02	A
19	56.47	0.42	0.03	B>	1.46	-0.15	-0.01	A	1.28	0.07	0.01	A	3.84	-0.26	-0.02	A	0.88	-0.18	-0.01	A
20	0.01	0.01	0.00	A	0.83	-0.11	-0.01	A	6.58	0.15	0.02	A	5.54	-0.30	-0.03	A	6.25	0.40	0.04	A
21	129.52	-0.66	-0.05	B<	8.06	-0.37	-0.03	B<	12.57	-0.24	-0.02	B<	8.50	-0.39	-0.03	B<	0.22	-0.10	-0.01	A
22	15.05	-0.20	-0.02	B<	5.26	0.27	0.03	A	17.74	0.25	0.02	B>	10.94	0.42	0.04	B>	9.81	0.50	0.05	B>
23	6.79	0.14	0.01	B>	2.52	-0.19	-0.02	A	1.09	-0.06	-0.01	A	7.67	-0.37	-0.03	B<	0.50	0.12	0.01	A
24	16.85	0.21	0.02	B>	1.04	0.12	0.01	A	0.08	-0.02	0.00	A	0.25	-0.07	0.00	A	0.37	-0.10	-0.01	A
25	121.18	0.55	0.05	B>	4.25	0.24	0.02	A	13.05	0.21	0.02	B>	3.77	0.24	0.02	A	1.76	-0.21	-0.02	A
26	29.02	0.27	0.03	B>	0.29	-0.07	-0.01	A	5.59	0.14	0.01	A	0.20	0.06	0.00	A	0.99	-0.16	-0.01	A
27	4.50	0.11	0.01	A	4.32	0.25	0.02	A	0.62	0.05	0.00	A	13.23	-0.51	-0.04	B<	8.76	0.46	0.04	B>
28	0.89	-0.05	0.00	A	5.12	0.27	0.02	A	0.67	0.05	0.00	A	3.00	-0.23	-0.02	A	13.77	0.59	0.05	B>
29	226.22	-0.91	-0.06	B<	3.56	-0.25	-0.02	A	0.01	0.01	0.00	A	5.10	0.31	0.03	A	0.71	0.18	0.01	A
30	49.83	0.52	0.02	B>	1.54	0.21	0.01	A	23.29	-0.42	-0.02	B<	20.81	-0.72	-0.05	B<	0.02	-0.06	0.00	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to some item suppressions.

(table continues)

**Table 9.2.1.16 (continued)**  
**2008 Spring AIMS Differential Item Functioning Science CRT Grade 4 Form A**

Item	Reference: Male N = 19845 Focal: Female N = 19049				Reference: White N = 16981 Focal: African Am. N = 2232				Reference: White N = 16981 Focal: Hispanic N = 16616				Reference: White N = 16981 Focal: Native Am. N = 1949				Reference: White N = 16981 Focal: Asian N = 1127			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	45.65	-0.57	-0.02	B<	24.26	-0.81	-0.04	B<	18.49	0.43	0.02	B>	5.26	0.43	0.02	A	0.54	0.24	0.01	A
32	3.59	-0.11	-0.01	A	2.73	-0.21	-0.02	A	45.40	-0.44	-0.04	B<	18.61	-0.56	-0.05	B<	4.75	-0.41	-0.03	A
33	73.54	0.54	0.03	B>	0.02	-0.02	0.00	A	17.62	0.31	0.03	B>	0.91	0.14	0.01	A	0.02	0.04	0.00	A
34	86.93	0.51	0.04	B>	0.31	0.07	0.01	A	0.54	0.05	0.00	A	0.00	0.00	0.00	A	0.04	0.04	0.00	A
35	303.07	-0.89	-0.08	B<	0.34	0.07	0.01	A	23.39	0.29	0.03	B>	0.11	0.04	0.00	A	0.17	-0.07	-0.01	A
36	154.96	-0.69	-0.05	B<	9.61	-0.39	-0.03	B<	243.33	-0.97	-0.07	B<	40.25	-0.84	-0.07	B<	23.39	-0.86	-0.06	B<
37	56.21	0.40	0.04	B>	1.68	0.16	0.01	A	38.83	0.38	0.03	B>	4.00	0.26	0.02	A	2.24	0.25	0.02	A
38	74.77	-0.56	-0.03	B<	1.41	-0.17	-0.01	A	36.68	-0.46	-0.03	B<	20.01	-0.63	-0.05	B<	0.19	0.11	0.00	A
39	0.30	-0.04	0.00	A	8.33	0.42	0.03	B>	4.52	0.16	0.01	A	3.18	0.26	0.02	A	3.22	0.44	0.02	A
40	39.15	0.34	0.03	B>	2.20	0.19	0.02	A	10.55	0.21	0.02	B>	1.32	-0.17	-0.01	A	4.13	0.34	0.03	A
41	128.33	0.73	0.04	B>	3.08	0.25	0.02	A	46.59	0.51	0.04	B>	4.97	0.32	0.02	A	1.86	0.31	0.01	A
42	3.80	0.10	0.01	A	0.11	0.04	0.00	A	6.22	0.15	0.02	A	1.97	0.18	0.02	A	7.63	0.45	0.04	B>
43	177.08	0.84	0.05	B>	0.01	0.02	0.00	A	2.31	-0.11	0.00	A	42.35	0.99	0.07	B>	1.21	0.25	0.01	A
44	35.48	0.50	0.02	B>	0.23	0.09	0.00	A	8.82	0.29	0.02	B>	20.04	0.87	0.04	B>	3.92	-0.54	-0.02	A
45	30.19	-0.33	-0.02	B<	14.99	-0.50	-0.04	B<	3.81	-0.14	-0.01	A	41.98	0.92	0.07	B>	0.39	0.14	0.01	A
46	110.28	0.52	0.05	B>	0.07	-0.03	0.00	A	24.55	0.29	0.03	B>	9.01	0.37	0.04	B>	0.00	-0.01	0.00	A
47	3.71	-0.10	-0.01	A	5.74	-0.27	-0.03	A	5.36	-0.13	-0.02	A	0.00	0.01	0.00	A	3.91	-0.30	-0.03	A
48	4.80	-0.11	-0.01	A	0.20	0.06	0.00	A	3.61	-0.12	-0.01	A	8.56	-0.39	-0.03	B<	2.84	0.27	0.02	A
49	5.93	-0.13	-0.01	A	0.52	-0.09	-0.01	A	0.70	0.05	0.01	A	0.67	0.11	0.01	A	0.89	-0.16	-0.01	A
50	8.79	-0.16	-0.01	B<	0.13	-0.05	-0.01	A	13.47	-0.22	-0.02	B<	10.51	-0.43	-0.04	B<	0.32	0.10	0.01	A
51	16.02	-0.21	-0.02	B<	0.11	-0.04	0.00	A	0.98	-0.06	0.00	A	0.00	0.00	0.00	A	0.01	-0.02	0.00	A
52	7.24	-0.15	-0.01	B<	8.02	-0.35	-0.03	B<	7.34	-0.17	-0.02	B<	0.00	-0.01	0.00	A	1.87	0.24	0.02	A
53	19.85	-0.24	-0.02	B<	4.24	-0.26	-0.02	A	14.06	-0.23	-0.01	B<	0.23	0.07	0.01	A	0.10	0.05	0.01	A
54	151.65	-0.64	-0.06	B<	0.53	0.09	0.01	A	4.29	-0.12	-0.01	A	0.26	0.07	0.00	A	2.68	-0.26	-0.02	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to some item suppressions.

**Table 9.2.1.17**  
**2008 Spring AIMS Differential Item Functioning Science CRT Grade 4 Form B**

Item	Reference: Male N = 19491 Focal: Female N = 18759				Reference: White N = 16658 Focal: African Am. N = 2286				Reference: White N = 16658 Focal: Hispanic N = 16274				Reference: White N = 16658 Focal: Native Am. N = 1891				Reference: White N = 16658 Focal: Asian N = 1173			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	59.80	1.02	0.01	B>	2.69	0.46	0.01	A	10.44	0.53	0.01	B>	1.98	0.40	0.01	A	0.26	-0.30	0.00	A
2	288.12	-1.14	-0.06	B<	0.36	0.09	0.00	A	11.91	-0.27	-0.03	B<	7.89	0.46	0.03	B>	0.08	0.07	0.00	A
3	2.13	0.08	0.01	A	22.34	0.58	0.05	B>	6.98	-0.17	-0.01	B<	26.05	-0.70	-0.06	B<	0.93	-0.17	-0.01	A
4	1.07	0.09	0.00	A	0.06	0.06	0.00	A	0.02	-0.02	-0.01	A	38.32	-1.12	-0.06	B<	0.51	-0.28	-0.01	A
5	4.42	-0.14	-0.01	A	0.13	-0.06	0.00	A	36.36	-0.47	-0.04	B<	0.61	0.12	0.01	A	1.92	-0.30	-0.01	A
6	6.73	0.16	0.01	B>	11.24	-0.45	-0.03	B<	1.42	-0.09	-0.02	A	18.54	-0.61	-0.05	B<	18.78	-0.86	-0.05	B<
7	156.95	0.71	0.06	B>	13.50	0.46	0.04	B>	74.47	0.57	0.05	B>	0.45	0.09	0.01	A	5.71	0.44	0.03	A
8	27.01	0.28	0.02	B>	3.00	0.21	0.02	A	12.71	0.22	0.02	B>	1.00	0.13	0.01	A	14.35	0.64	0.05	B>
9	189.40	-0.97	-0.05	B<	0.24	-0.08	-0.01	A	109.53	-0.88	-0.06	B<	6.87	-0.42	-0.03	B<	9.39	-0.72	-0.03	B<
10	25.91	0.69	0.01	B>	0.27	0.15	0.00	A	24.80	0.82	0.01	B>	21.30	1.52	0.03	C>	0.71	0.51	0.00	A
11	44.33	0.70	0.02	B>	12.60	0.83	0.02	B>	43.98	0.85	0.02	B>	15.19	0.97	0.03	B>	6.66	-0.79	-0.02	B<
12	5.74	-0.14	-0.01	A	8.08	0.37	0.03	B>	21.09	0.32	0.01	B>	72.03	1.23	0.10	B>	0.53	-0.14	-0.01	A
13	24.36	0.29	0.02	B>	0.49	0.09	0.01	A	3.36	-0.13	-0.01	A	1.94	-0.19	-0.02	A	0.36	-0.12	-0.01	A
14	21.14	-0.25	-0.02	B<	1.96	-0.17	-0.01	A	75.33	-0.55	-0.05	B<	1.99	-0.19	-0.02	A	7.22	-0.46	-0.03	B<
15	30.75	-0.36	-0.02	B<	2.64	0.23	0.02	A	12.29	0.27	0.02	B>	8.14	0.44	0.03	B>	0.01	0.03	0.00	A
16	19.34	-0.23	-0.02	B<	3.20	0.21	0.02	A	23.61	0.30	0.02	B>	0.39	0.09	0.01	A	2.55	0.25	0.02	A
17	87.04	-0.52	-0.04	B<	16.80	-0.50	-0.04	B<	87.23	-0.60	-0.06	B<	4.88	-0.30	-0.03	A	0.17	-0.08	-0.01	A
18	18.21	0.28	0.02	B>	7.79	0.41	0.03	B>	16.22	-0.31	-0.02	B<	14.55	-0.56	-0.04	B<	1.56	0.28	0.01	A
19	29.42	0.30	0.02	B>	0.22	0.06	0.00	A	17.26	0.27	0.03	B>	2.02	-0.19	-0.01	A	0.05	0.05	0.00	A
20	1.01	-0.05	0.00	A	0.20	0.05	0.00	A	4.77	0.13	0.02	A	12.50	0.45	0.05	B>	0.18	0.07	0.01	A
21	97.52	-0.56	-0.04	B<	0.09	-0.04	-0.01	A	20.33	0.30	0.02	B>	2.20	0.21	0.02	A	0.01	0.02	0.00	A
22	76.43	0.45	0.04	B>	4.13	-0.24	-0.02	A	0.12	0.02	0.00	A	0.26	-0.07	0.00	A	1.44	0.19	0.02	A
23	1.67	0.07	0.01	A	1.16	-0.13	-0.01	A	0.00	0.00	0.00	A	4.14	-0.28	-0.02	A	0.90	0.16	0.01	A
24	9.35	0.16	0.01	B>	2.10	0.17	0.02	A	1.79	0.08	0.01	A	0.02	0.02	0.00	A	0.02	0.03	0.00	A
25	0.22	-0.03	0.00	A	7.10	-0.33	-0.03	B<	14.82	-0.26	-0.02	B<	4.39	-0.29	-0.02	A	6.24	-0.48	-0.03	A
26	15.56	0.20	0.02	B>	5.93	0.29	0.02	A	18.03	0.26	0.02	B>	3.24	0.24	0.02	A	2.26	0.23	0.02	A
27	58.34	0.39	0.04	B>	7.44	0.31	0.03	B>	63.56	0.48	0.04	B>	0.74	0.11	0.01	A	31.69	0.82	0.08	B>
28	108.83	0.67	0.04	B>	3.98	0.28	0.02	A	26.01	0.38	0.04	B>	1.88	-0.20	-0.02	A	0.27	0.12	0.01	A
29	313.66	-1.05	-0.08	B<	1.91	-0.18	-0.01	A	0.72	-0.06	-0.01	A	1.91	-0.19	-0.02	A	0.86	0.19	0.01	A
30	15.93	0.30	0.01	B>	1.44	0.20	0.01	A	28.69	-0.48	-0.03	B<	16.64	-0.62	-0.04	B<	0.11	0.11	0.00	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to some item suppressions.

(table continues)

**Table 9.2.1.17 (continued)**  
**2008 Spring AIMS Differential Item Functioning Science CRT Grade 4 Form B**

Item	Reference: Male N = 19491 Focal: Female N = 18759				Reference: White N = 16658 Focal: African Am. N = 2286				Reference: White N = 16658 Focal: Hispanic N = 16274				Reference: White N = 16658 Focal: Native Am. N = 1891				Reference: White N = 16658 Focal: Asian N = 1173			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	64.85	-0.71	-0.02	B<	10.78	-0.56	-0.03	B<	22.71	0.51	0.02	B>	12.30	0.69	0.03	B>	5.51	0.80	0.02	A
32	0.20	-0.03	0.00	A	1.52	-0.16	-0.01	A	31.07	-0.37	-0.03	B<	39.69	-0.83	-0.07	B<	3.95	-0.37	-0.02	A
33	28.38	0.41	0.02	B>	0.53	0.12	0.01	A	17.97	0.39	0.02	B>	3.35	-0.30	-0.02	A	3.07	0.49	0.01	A
34	3.38	0.09	0.01	A	0.00	0.01	0.00	A	1.06	0.06	0.01	A	0.18	-0.06	0.00	A	4.97	-0.34	-0.03	A
35	313.96	-0.91	-0.09	B<	4.90	0.26	0.02	A	41.24	0.39	0.04	B>	0.12	0.05	0.00	A	0.82	0.15	0.01	A
36	140.84	-0.66	-0.05	B<	8.38	-0.36	-0.03	B<	161.71	-0.81	-0.06	B<	15.27	-0.53	-0.04	B<	17.23	-0.73	-0.05	B<
37	66.38	0.44	0.04	B>	2.78	-0.20	-0.02	A	3.58	0.12	0.02	A	4.62	0.29	0.02	A	0.91	0.17	0.01	A
38	41.34	-0.42	-0.03	B<	0.07	0.04	0.00	A	0.78	0.07	0.01	A	2.25	0.23	0.02	A	2.37	0.37	0.02	A
39	43.16	-0.35	-0.03	B<	12.32	-0.43	-0.04	B<	32.08	-0.35	-0.02	B<	5.23	-0.32	-0.03	A	10.16	-0.50	-0.04	B<
40	36.11	0.31	0.03	B>	2.63	0.19	0.02	A	8.10	0.17	0.02	B>	3.11	-0.23	-0.02	A	2.75	0.26	0.02	A
41	222.49	1.06	0.05	B>	1.56	-0.19	-0.01	A	1.28	0.10	0.01	A	10.60	-0.49	-0.03	B<	0.82	-0.24	-0.01	A
42	24.14	0.29	0.02	B>	0.01	0.01	0.00	A	181.89	-0.90	-0.06	B<	24.34	-0.67	-0.05	B<	3.06	-0.33	-0.02	A
43	120.15	0.69	0.04	B>	0.70	-0.12	-0.01	A	0.96	-0.07	-0.01	A	57.05	1.19	0.09	B>	0.28	0.12	0.01	A
44	24.06	0.42	0.01	B>	4.33	-0.36	-0.02	A	12.39	0.36	0.02	B>	41.08	1.31	0.06	B>	0.09	0.11	0.00	A
45	32.76	-0.35	-0.02	B<	20.76	-0.59	-0.04	B<	0.27	0.04	0.00	A	56.06	1.12	0.09	B>	0.91	0.21	0.01	A
46	70.53	0.44	0.04	B>	5.30	0.28	0.02	A	49.20	0.43	0.03	B>	13.36	0.49	0.04	B>	4.38	0.32	0.03	A
47	37.08	0.34	0.03	B>	2.04	-0.18	-0.01	A	44.72	-0.43	-0.02	B<	1.31	-0.16	-0.01	A	10.64	-0.54	-0.04	B<
48	2.92	-0.09	-0.01	A	4.26	-0.25	-0.02	A	0.67	0.05	0.00	A	2.56	-0.22	-0.02	A	0.17	-0.07	-0.01	A
49	29.87	-0.29	-0.03	B<	1.79	-0.16	-0.01	A	0.90	0.06	0.01	A	6.32	0.33	0.03	A	0.14	-0.07	-0.01	A
50	15.03	-0.21	-0.02	B<	1.42	0.15	0.01	A	2.34	-0.10	-0.01	A	2.02	-0.20	-0.02	A	0.78	0.15	0.01	A
51	0.19	0.02	0.00	A	4.08	0.24	0.02	A	26.32	0.32	0.02	B>	0.23	-0.07	-0.01	A	0.89	0.15	0.01	A
52	162.80	0.79	0.05	B>	7.09	0.36	0.03	B>	9.97	0.23	0.02	B>	0.02	0.03	0.00	A	6.03	0.55	0.03	A
53	1.45	-0.06	-0.01	A	16.40	-0.48	-0.04	B<	7.93	-0.17	-0.02	B<	0.02	0.02	0.00	A	0.32	-0.09	-0.01	A
54	165.85	-0.69	-0.06	B<	3.47	-0.23	-0.02	A	2.12	-0.09	-0.02	A	11.72	0.46	0.04	B>	8.40	-0.48	-0.04	B<

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to some item suppressions.

**Table 9.2.1.18**  
**2008 Spring AIMS Differential Item Functioning Science CRT Grade 8 Form A**

Item	Reference: Male N = 19817 Focal: Female N = 19006				Reference: White N = 17830 Focal: African Am. N = 2206				Reference: White N = 17830 Focal: Hispanic N = 15664				Reference: White N = 17830 Focal: Native Am. N = 2122				Reference: White N = 17830 Focal: Asian N = 1064			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	35.07	0.52	0.02	B>	0.20	-0.09	0.00	A	1.19	-0.12	0.00	A	0.46	-0.13	-0.01	A	1.35	-0.40	-0.01	A
2	81.61	-0.57	-0.04	B<	1.37	0.17	0.01	A	17.50	-0.30	-0.03	B<	0.24	-0.07	-0.01	A	0.44	-0.15	-0.01	A
3	0.16	0.03	0.00	A	0.00	0.00	0.00	A	15.65	-0.31	-0.02	B<	31.64	-0.79	-0.06	B<	1.72	-0.33	-0.01	A
4	11.11	0.37	0.01	B>	1.45	-0.30	-0.01	A	1.76	-0.18	-0.01	A	1.55	-0.29	-0.01	A	3.54	-0.80	-0.01	A
5	52.17	-0.58	-0.02	B<	71.44	-1.28	-0.07	B<	4.70	0.21	0.01	A	4.29	0.38	0.02	A	14.49	-0.98	-0.03	B<
6	515.06	-1.87	-0.07	C<	14.09	-0.70	-0.03	B<	383.93	-1.95	-0.09	C<	31.73	-0.96	-0.05	B<	31.02	-1.73	-0.04	C<
7	7.74	0.18	0.01	B>	5.95	-0.33	-0.03	A	3.80	0.14	0.00	A	1.00	0.14	0.01	A	0.21	-0.11	-0.01	A
8	1.89	-0.07	-0.01	A	5.05	0.28	0.02	A	68.00	-0.51	-0.05	B<	8.90	-0.36	-0.03	B<	5.38	-0.42	-0.03	A
9	5.73	0.13	0.01	A	0.76	-0.11	-0.01	A	2.69	-0.10	-0.01	A	2.50	0.20	0.02	A	0.31	-0.11	-0.01	A
10	54.33	0.37	0.04	B>	0.02	0.02	0.00	A	18.37	0.25	0.02	B>	0.16	-0.05	-0.01	A	0.22	-0.08	-0.01	A
11	288.63	-1.30	-0.06	B<	20.90	-0.73	-0.04	B<	82.31	-0.83	-0.05	B<	86.33	-1.38	-0.09	B<	24.90	-1.35	-0.04	B<
12	315.20	0.92	0.09	B>	0.02	-0.02	0.00	A	1.77	0.08	0.01	A	2.09	0.17	0.02	A	1.24	-0.19	-0.02	A
13	4.27	-0.12	-0.01	A	4.28	0.26	0.02	A	17.54	0.27	0.03	B>	0.20	0.06	0.01	A	2.90	0.33	0.02	A
14	139.50	-0.65	-0.05	B<	0.07	-0.04	0.00	A	0.73	0.06	0.00	A	5.80	-0.30	-0.03	A	9.61	-0.55	-0.04	B<
15	2.17	0.09	0.01	A	14.13	0.53	0.04	B>	65.73	0.59	0.04	B>	30.73	0.79	0.06	B>	0.15	0.09	0.00	A
16	33.66	-0.29	-0.03	B<	0.06	-0.03	0.00	A	3.09	-0.10	-0.01	A	0.22	0.06	0.01	A	0.84	-0.15	-0.01	A
17	76.31	-0.50	-0.04	B<	25.32	-0.63	-0.05	B<	132.98	-0.75	-0.07	B<	26.40	-0.64	-0.05	B<	19.81	-0.83	-0.05	B<
18	2.55	0.09	0.01	A	0.59	0.10	0.01	A	7.01	0.17	0.01	B>	0.54	-0.09	-0.01	A	4.66	0.43	0.03	A
19	0.65	0.06	0.00	A	0.71	-0.13	-0.01	A	5.75	-0.19	-0.01	A	0.45	0.10	0.01	A	0.54	-0.20	-0.01	A
20	51.43	-0.44	-0.03	B<	0.07	-0.04	0.00	A	3.16	-0.12	-0.01	A	1.81	-0.18	-0.01	A	7.27	0.63	0.03	B>
21	254.69	-0.85	-0.08	B<	11.74	-0.40	-0.04	B<	17.98	0.26	0.02	B>	7.64	0.34	0.03	B>	1.95	-0.25	-0.02	A
22	4.76	-0.13	-0.01	A	4.91	-0.28	-0.02	A	42.08	0.44	0.03	B>	6.74	0.33	0.03	B>	0.07	-0.06	0.00	A
23	6.06	-0.15	-0.01	A	1.22	-0.14	-0.01	A	0.01	-0.01	0.00	A	1.83	-0.18	-0.01	A	0.59	0.17	0.01	A
24	18.33	-0.25	-0.02	B<	0.07	0.04	0.00	A	17.62	0.28	0.03	B>	0.74	0.11	0.01	A	2.33	0.32	0.02	A
25	26.76	-0.28	-0.02	B<	0.10	0.04	0.00	A	8.86	-0.19	-0.01	B<	0.00	0.00	0.00	A	15.52	-0.71	-0.05	B<
26	39.56	0.33	0.03	B>	3.65	0.22	0.02	A	8.52	0.18	0.03	B>	17.28	0.49	0.05	B>	5.65	0.42	0.03	A
27	287.18	0.94	0.08	B>	15.85	0.50	0.04	B>	145.03	0.78	0.07	B>	35.09	0.74	0.07	B>	21.09	0.88	0.06	B>
28	7.03	0.14	0.01	B>	0.39	-0.08	-0.01	A	91.32	-0.58	-0.05	B<	2.83	-0.21	-0.02	A	0.28	-0.09	-0.01	A
29	180.52	-0.86	-0.05	B<	0.53	-0.10	-0.01	A	0.00	0.00	0.00	A	29.91	0.80	0.06	B>	23.82	-0.97	-0.05	B<
30	153.38	0.76	0.05	B>	0.37	0.08	0.01	A	10.21	0.23	0.01	B>	7.82	-0.37	-0.03	B<	0.14	0.09	0.00	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to some item suppressions.

(table continues)



**Table 9.2.1.18 (continued)**  
**2008 Spring AIMS Differential Item Functioning Science CRT Grade 8 Form A**

Item	Reference: Male N = 19817 Focal: Female N = 19006				Reference: White N = 17830 Focal: African Am. N = 2206				Reference: White N = 17830 Focal: Hispanic N = 15664				Reference: White N = 17830 Focal: Native Am. N = 2122				Reference: White N = 17830 Focal: Asian N = 1064			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	2.96	0.09	0.01	A	10.44	0.39	0.03	B>	6.76	0.16	0.01	B>	0.86	0.12	0.01	A	11.28	0.56	0.05	B>
32	0.32	-0.04	0.00	A	0.13	0.06	0.00	A	11.50	0.26	0.01	B>	1.61	0.21	0.01	A	3.44	-0.38	-0.02	A
33	248.94	0.86	0.07	B>	0.57	0.10	0.01	A	5.59	-0.15	-0.01	A	0.23	0.06	0.01	A	12.44	-0.60	-0.05	B<
34	9.64	-0.18	-0.01	B<	4.70	-0.27	-0.02	A	0.13	-0.02	0.00	A	0.31	-0.07	-0.01	A	2.55	-0.31	-0.02	A
35	37.74	-0.32	-0.03	B<	0.35	0.07	0.01	A	8.29	-0.17	-0.01	B<	3.84	-0.24	-0.02	A	0.57	0.13	0.01	A
36	0.56	0.04	0.00	A	1.80	0.16	0.01	A	7.43	0.17	0.02	B>	2.02	0.18	0.01	A	20.05	0.85	0.06	B>
37	313.02	-1.10	-0.07	B<	15.10	-0.52	-0.04	B<	192.57	-0.97	-0.07	B<	10.00	-0.43	-0.03	B<	21.07	-0.98	-0.05	B<
38	15.30	0.22	0.02	B>	5.62	0.30	0.03	A	44.80	0.44	0.04	B>	2.83	0.22	0.02	A	1.96	0.27	0.02	A
39	60.77	0.40	0.04	B>	0.81	-0.11	-0.01	A	73.17	0.52	0.05	B>	10.04	0.39	0.04	B>	3.92	0.34	0.03	A
40	52.37	0.54	0.02	B>	0.41	0.11	0.01	A	14.63	0.34	0.02	B>	0.40	0.10	0.01	A	0.41	0.21	0.01	A
41	7.77	-0.15	-0.01	B<	1.08	0.13	0.01	A	2.68	0.10	0.01	A	1.94	-0.18	-0.02	A	27.41	0.96	0.07	B>
42	0.10	0.02	0.00	A	1.70	0.16	0.01	A	0.31	-0.04	0.00	A	1.03	-0.13	-0.01	A	1.39	0.23	0.02	A
43	4.50	0.12	0.01	A	7.21	0.35	0.02	B>	6.75	0.17	0.02	B>	7.82	0.36	0.03	B>	21.12	0.83	0.06	B>
44	3.71	-0.10	-0.01	A	7.18	-0.32	-0.03	B<	3.31	-0.11	-0.01	A	20.42	-0.56	-0.04	B<	0.00	0.02	0.00	A
45	377.00	1.53	0.06	C>	17.94	0.71	0.04	B>	93.66	0.87	0.05	B>	46.41	1.11	0.07	B>	25.33	1.79	0.04	C>
46	28.05	-0.29	-0.02	B<	1.02	-0.13	-0.01	A	100.27	-0.64	-0.04	B<	61.82	-1.11	-0.08	B<	7.51	-0.48	-0.04	B<
47	358.46	1.26	0.07	B>	4.06	0.30	0.02	A	0.86	0.07	0.00	A	0.41	0.09	0.01	A	1.99	0.37	0.01	A
48	237.99	-0.83	-0.07	B<	2.22	-0.18	-0.02	A	13.74	-0.23	-0.02	B<	0.00	0.01	0.00	A	16.17	-0.66	-0.05	B<
49	115.41	0.55	0.05	B>	0.43	0.08	0.01	A	0.23	-0.03	0.01	A	5.00	0.28	0.03	A	0.03	0.03	0.00	A
50	432.57	-1.09	-0.10	B<	10.34	-0.38	-0.04	B<	36.28	-0.36	-0.04	B<	2.17	-0.18	-0.02	A	10.30	-0.54	-0.05	B<
51	23.06	-0.26	-0.02	B<	0.17	0.05	0.01	A	7.20	-0.17	-0.01	B<	2.26	-0.20	-0.01	A	8.33	0.52	0.04	B>
52	11.20	0.19	0.01	B>	1.70	0.17	0.01	A	9.53	-0.20	-0.02	B<	29.98	-0.79	-0.05	B<	7.44	0.47	0.04	B>
53	6.35	0.14	0.01	A	0.18	0.06	0.01	A	41.56	-0.41	-0.03	B<	7.88	-0.36	-0.03	B<	0.60	-0.15	-0.01	A
54	0.02	-0.01	0.00	A	4.64	0.27	0.02	A	8.99	0.19	0.01	B>	0.25	-0.07	-0.01	A	0.43	0.11	0.01	A
55	193.28	0.77	0.06	B>	22.68	0.59	0.05	B>	81.46	0.57	0.04	B>	21.54	0.59	0.05	B>	20.22	0.87	0.06	B>
56	44.12	0.34	0.03	B>	9.76	0.36	0.03	B>	63.36	0.47	0.04	B>	4.52	0.26	0.02	A	15.96	0.69	0.06	B>
57	230.35	0.88	0.07	B>	0.13	-0.05	0.00	A	25.10	0.33	0.03	B>	1.25	0.15	0.01	A	2.53	0.31	0.02	A
58	1.38	-0.06	-0.01	A	7.45	-0.31	-0.03	B<	0.34	0.03	0.00	A	25.70	0.58	0.06	B>	14.72	-0.59	-0.06	B<

Note. African Am. = African American, Native Am. = Native American, MH  $\chi^2$  = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-DIF), SMD = Standardized Mean Difference, A = No DIF, B = Weak DIF, C = Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to some item suppressions.

**Table 9.2.1.19**  
**2008 Spring AIMS Differential Item Functioning Science CRT Grade 8 Form B**

Item	Reference: Male N = 19369 Focal: Female N = 18977				Reference: White N = 17571 Focal: African Am. N = 2196				Reference: White N = 17571 Focal: Hispanic N = 15500				Reference: White N = 17571 Focal: Native Am. N = 2021				Reference: White N = 17571 Focal: Asian N = 1126			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	0.37	0.05	0.00	A	0.20	-0.08	0.00	A	3.92	0.17	0.01	A	7.63	-0.44	-0.03	B<	6.37	-0.61	-0.02	A
2	139.81	-0.69	-0.05	B<	1.05	0.13	0.01	A	10.68	0.22	0.01	B>	17.11	-0.53	-0.05	B<	2.36	0.31	0.02	A
3	4.22	-0.13	-0.01	A	0.28	-0.08	-0.01	A	29.44	-0.40	-0.04	B<	77.03	-1.17	-0.10	B<	18.67	-0.88	-0.05	B<
4	12.82	0.40	0.01	B>	4.49	-0.52	-0.01	A	34.51	-0.82	-0.02	B<	2.34	-0.37	-0.01	A	0.72	-0.42	0.00	A
5	57.34	-0.63	-0.02	B<	84.22	-1.38	-0.07	B<	9.83	0.31	0.01	B>	4.87	0.41	0.02	A	17.97	-1.05	-0.03	B<
6	612.58	-2.06	-0.08	C<	5.07	-0.44	-0.02	A	472.13	-2.18	-0.10	C<	34.06	-1.04	-0.05	B<	28.86	-1.55	-0.03	C<
7	15.72	0.23	0.02	B>	10.48	-0.40	-0.03	B<	12.65	-0.23	-0.02	B<	4.92	-0.29	-0.03	A	0.41	-0.13	-0.01	A
8	180.93	-0.69	-0.07	B<	0.14	-0.05	0.00	A	97.06	0.59	0.05	B>	8.15	0.34	0.04	B>	0.62	0.13	0.01	A
9	0.03	0.01	0.00	A	0.75	0.11	0.01	A	21.35	-0.29	-0.03	B<	14.93	-0.48	-0.05	B<	0.25	0.10	0.01	A
10	101.11	0.51	0.05	B>	2.15	0.17	0.01	A	10.24	0.19	0.01	B>	0.28	-0.07	-0.01	A	0.46	-0.11	-0.01	A
11	337.68	-1.40	-0.06	B<	24.03	-0.79	-0.04	B<	79.51	-0.81	-0.05	B<	119.73	-1.61	-0.10	C<	13.77	-1.00	-0.03	B<
12	282.12	0.88	0.08	B>	4.41	-0.25	-0.02	A	0.61	0.05	0.00	A	0.07	-0.03	0.00	A	2.71	-0.27	-0.02	A
13	4.65	-0.12	-0.01	A	6.35	0.32	0.03	A	15.86	0.26	0.03	B>	2.65	0.21	0.02	A	0.18	-0.08	-0.01	A
14	173.89	-0.72	-0.06	B<	3.23	-0.22	-0.02	A	4.97	-0.14	-0.02	A	16.40	-0.52	-0.05	B<	3.75	-0.33	-0.03	A
15	7.01	0.17	0.01	B>	6.56	0.36	0.02	A	43.17	0.48	0.03	B>	36.23	0.87	0.06	B>	1.42	0.26	0.01	A
16	6.90	0.15	0.01	B>	0.00	0.00	0.00	A	0.34	-0.04	0.00	A	2.19	-0.19	-0.01	A	0.02	-0.04	0.00	A
17	6.84	0.14	0.01	B>	0.54	-0.09	-0.01	A	10.71	-0.21	-0.02	B<	0.21	-0.06	0.00	A	2.04	-0.25	-0.02	A
18	51.04	-0.39	-0.03	B<	0.01	0.01	0.00	A	0.00	0.00	0.00	A	3.23	0.23	0.02	A	4.57	0.40	0.03	A
19	9.71	0.21	0.01	B>	0.11	0.05	0.00	A	0.33	-0.04	0.00	A	0.74	0.13	0.01	A	1.50	0.29	0.01	A
20	95.17	-0.59	-0.04	B<	0.54	0.10	0.01	A	7.69	-0.19	-0.01	B<	0.17	-0.06	0.00	A	2.31	0.34	0.02	A
21	325.72	-0.96	-0.09	B<	5.28	-0.27	-0.02	A	38.52	0.38	0.04	B>	14.55	0.47	0.05	B>	0.07	-0.05	0.00	A
22	44.06	0.33	0.03	B>	5.18	-0.26	-0.02	A	0.15	0.02	0.01	A	0.24	-0.06	-0.01	A	1.30	-0.18	-0.02	A
23	14.10	0.22	0.02	B>	2.28	-0.19	-0.01	A	0.91	0.07	0.01	A	0.00	0.01	0.00	A	0.34	-0.12	-0.01	A
24	71.70	-0.53	-0.03	B<	0.62	0.11	0.01	A	0.36	0.04	0.00	A	0.00	0.00	0.00	A	0.04	-0.05	0.00	A
25	23.75	-0.27	-0.02	B<	0.33	-0.07	-0.01	A	22.61	0.31	0.02	B>	0.00	0.01	0.00	A	4.72	-0.38	-0.03	A
26	34.50	0.31	0.03	B>	9.57	0.36	0.04	B>	1.93	0.08	0.01	A	23.50	0.59	0.06	B>	8.19	0.50	0.04	B>
27	242.22	0.86	0.07	B>	4.80	0.27	0.02	A	91.72	0.61	0.06	B>	50.58	0.90	0.08	B>	25.22	0.91	0.06	B>
28	98.40	0.55	0.05	B>	0.00	0.01	0.00	A	11.46	-0.21	-0.01	B<	8.28	-0.38	-0.03	B<	5.15	-0.40	-0.03	A
29	246.83	-0.87	-0.07	B<	14.37	-0.48	-0.04	B<	57.21	-0.48	-0.03	B<	1.01	-0.14	-0.01	A	11.67	-0.57	-0.05	B<
30	38.95	0.38	0.03	B>	5.63	-0.31	-0.02	A	1.75	-0.09	-0.01	A	11.03	-0.45	-0.04	B<	4.66	-0.44	-0.02	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to some item suppressions.

(table continues)

**Table 9.2.1.19 (continued)**  
**2008 Spring AIMS Differential Item Functioning Science CRT Grade 8 Form B**

Item	Reference: Male N = 19369 Focal: Female N = 18977				Reference: White N = 17571 Focal: African Am. N = 2196				Reference: White N = 17571 Focal: Hispanic N = 15500				Reference: White N = 17571 Focal: Native Am. N = 2021				Reference: White N = 17571 Focal: Asian N = 1126			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	5.38	0.13	0.01	A	8.50	0.36	0.03	B>	4.48	0.14	0.01	A	4.27	0.28	0.02	A	24.46	0.77	0.07	B>
32	19.51	0.24	0.02	B>	1.18	-0.13	-0.01	A	3.75	0.12	0.01	A	1.95	0.18	0.02	A	1.74	0.24	0.02	A
33	151.20	0.65	0.06	B>	0.04	0.03	0.00	A	13.51	-0.23	-0.03	B<	2.39	0.20	0.02	A	30.37	-0.86	-0.08	B<
34	3.25	-0.10	-0.01	A	7.40	-0.33	-0.03	B<	2.01	-0.09	0.00	A	0.32	-0.08	0.00	A	4.93	-0.42	-0.03	A
35	39.89	-0.33	-0.03	B<	0.36	-0.07	-0.01	A	15.69	-0.24	-0.02	B<	1.86	-0.17	-0.01	A	0.02	0.03	0.00	A
36	77.26	0.65	0.03	B>	34.96	0.99	0.05	B>	52.51	0.62	0.03	B>	13.27	0.58	0.04	B>	0.04	0.06	0.00	A
37	62.74	-0.42	-0.04	B<	1.43	0.14	0.01	A	44.86	-0.41	-0.04	B<	4.37	-0.27	-0.03	A	5.27	-0.38	-0.03	A
38	20.83	0.26	0.02	B>	8.49	0.38	0.03	B>	16.72	0.27	0.02	B>	10.49	0.42	0.04	B>	8.60	0.55	0.04	B>
39	82.16	0.47	0.04	B>	0.07	0.03	0.01	A	42.98	0.40	0.04	B>	23.22	0.60	0.06	B>	5.92	0.39	0.03	A
40	63.36	0.60	0.03	B>	4.65	0.35	0.02	A	2.01	0.12	0.01	A	0.25	0.08	0.01	A	1.12	0.31	0.01	A
41	32.38	-0.31	-0.03	B<	0.08	0.04	0.00	A	1.65	0.08	0.01	A	0.15	0.05	0.00	A	24.64	0.88	0.06	B>
42	4.66	-0.12	-0.01	A	6.54	0.31	0.03	A	2.45	-0.10	0.00	A	0.93	-0.13	-0.01	A	0.87	0.17	0.01	A
43	0.03	0.01	0.00	A	23.30	0.62	0.05	B>	5.26	0.15	0.01	A	4.92	0.31	0.02	A	14.31	0.66	0.05	B>
44	12.92	-0.19	-0.02	B<	3.28	-0.22	-0.02	A	1.53	-0.08	0.00	A	2.33	-0.20	-0.01	A	0.00	0.02	0.00	A
45	106.24	0.65	0.04	B>	7.69	0.38	0.03	B>	4.23	0.15	0.01	A	12.91	0.50	0.04	B>	2.20	0.34	0.02	A
46	10.46	0.17	0.02	B>	1.43	0.15	0.01	A	0.07	-0.02	0.00	A	7.29	0.35	0.03	B>	8.10	-0.48	-0.04	B<
47	0.00	0.00	0.00	A	3.79	-0.24	-0.02	A	9.89	-0.19	-0.01	B<	0.37	0.08	0.01	A	2.82	-0.26	-0.02	A
48	8.11	-0.16	-0.01	B<	0.88	0.12	0.01	A	8.31	-0.18	-0.01	B<	22.45	-0.63	-0.05	B<	0.00	-0.01	0.00	A
49	156.49	0.71	0.06	B>	1.40	-0.15	-0.01	A	5.67	-0.16	-0.01	A	4.83	-0.28	-0.02	A	9.95	-0.56	-0.04	B<
50	30.69	-0.35	-0.02	B<	30.62	-0.72	-0.05	B<	7.74	-0.20	-0.01	B<	14.97	0.55	0.04	B>	0.44	0.16	0.01	A
51	1.28	0.06	0.01	A	1.04	-0.12	-0.01	A	0.89	0.06	0.01	A	1.30	0.14	0.01	A	1.61	0.20	0.02	A
52	2.11	0.08	0.01	A	6.92	-0.34	-0.03	B<	13.31	-0.23	-0.02	B<	31.45	-0.79	-0.06	B<	0.15	0.07	0.01	A
53	0.05	-0.01	0.00	A	2.06	0.18	0.01	A	35.83	-0.38	-0.03	B<	1.12	-0.14	-0.01	A	0.83	-0.17	-0.01	A
54	7.30	-0.15	-0.01	B<	1.75	0.17	0.01	A	0.20	0.03	0.00	A	0.09	-0.04	-0.01	A	0.02	-0.03	0.00	A
55	136.55	0.65	0.05	B>	19.29	0.55	0.05	B>	42.19	0.42	0.03	B>	31.85	0.74	0.06	B>	18.22	0.80	0.05	B>
56	4.47	0.12	0.01	A	3.07	0.23	0.02	A	0.03	-0.01	0.00	A	0.29	-0.07	-0.01	A	1.63	0.27	0.01	A
57	210.69	0.82	0.07	B>	0.46	0.09	0.01	A	33.93	0.38	0.03	B>	9.70	0.41	0.03	B>	0.78	0.16	0.01	A
58	166.73	-0.68	-0.06	B<	2.51	0.19	0.02	A	7.02	0.16	0.01	B>	0.13	-0.05	0.00	A	7.52	0.46	0.04	B>

Note. African Am. = African American, Native Am. = Native American, MH  $\chi^2$  = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A = No DIF, B = Weak DIF, C = Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to some item suppressions.

**Table 9.2.1.20**  
**2008 Spring AIMS Differential Item Functioning Science CRT High School Form A**

Item	Reference: Male N = 11117 Focal: Female N = 11414				Reference: White N = 10174 Focal: African Am. N = 1407				Reference: White N = 10174 Focal: Hispanic N = 8979				Reference: White N = 10174 Focal: Native Am. N = 1443				Reference: White N = 10174 Focal: Asian N = 588			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	3.50	-0.20	-0.01	A	21.05	-0.95	-0.04	B<	4.05	-0.26	-0.01	A	0.30	0.13	0.00	A	8.03	-1.08	-0.03	B<
2	44.77	-0.70	-0.03	B<	0.29	-0.13	-0.01	A	1.64	-0.16	-0.01	A	0.68	-0.18	-0.01	A	3.55	-0.69	-0.02	A
3	10.34	0.27	0.02	B>	0.93	0.17	0.01	A	0.52	-0.07	-0.01	A	4.02	-0.34	-0.03	A	1.03	0.34	0.02	A
4	1.40	-0.14	-0.01	A	0.64	-0.19	-0.01	A	7.48	-0.36	-0.02	B<	0.06	-0.06	0.00	A	0.66	-0.40	-0.01	A
5	75.08	0.72	0.04	B>	10.49	-0.56	-0.04	B<	13.53	-0.35	-0.02	B<	7.05	-0.44	-0.03	B<	0.11	-0.11	-0.01	A
6	18.92	0.31	0.03	B>	2.95	0.27	0.02	A	1.32	0.09	0.01	A	5.61	0.36	0.04	A	0.03	-0.05	0.00	A
7	64.84	-0.68	-0.04	B<	0.40	-0.12	-0.01	A	2.29	0.15	0.01	A	0.88	0.16	0.01	A	8.26	-0.77	-0.04	B<
8	18.13	-0.37	-0.02	B<	2.35	-0.27	-0.02	A	7.09	-0.26	-0.02	B<	1.03	-0.18	-0.01	A	1.00	-0.32	-0.01	A
9	1.25	0.10	0.01	A	1.05	-0.18	-0.01	A	2.72	0.16	0.01	A	1.97	-0.23	-0.02	A	0.00	-0.02	0.00	A
10	22.31	0.35	0.03	B>	0.25	-0.08	-0.01	A	13.42	-0.31	-0.03	B<	5.60	-0.36	-0.03	A	2.13	0.39	0.03	A
11	25.51	0.37	0.03	B>	0.00	0.01	0.00	A	0.00	0.01	0.00	A	1.52	0.19	0.02	A	8.15	0.77	0.05	B>
12	0.02	0.01	0.00	A	0.04	0.03	0.00	A	30.28	0.44	0.03	B>	0.68	0.13	0.01	A	6.19	-0.56	-0.05	A
13	305.32	-1.36	-0.10	B<	8.35	-0.47	-0.04	B<	23.62	-0.42	-0.03	B<	0.05	0.04	0.00	A	0.52	-0.20	-0.01	A
14	0.00	0.00	0.00	A	0.72	-0.13	-0.01	A	6.08	0.19	0.01	A	11.01	0.48	0.05	B>	1.68	0.29	0.03	A
15	114.72	-0.84	-0.06	B<	1.97	-0.23	-0.02	A	11.98	0.31	0.02	B>	7.12	-0.42	-0.04	B<	3.50	-0.48	-0.03	A
16	58.55	0.55	0.05	B>	0.31	-0.09	-0.01	A	1.23	0.09	0.01	A	0.02	0.02	0.00	A	4.72	-0.51	-0.04	A
17	0.04	0.02	0.00	A	4.27	-0.44	-0.02	A	0.40	0.08	0.00	A	0.21	0.10	0.01	A	2.91	-0.60	-0.02	A
18	6.64	-0.21	-0.01	B<	2.13	0.26	0.02	A	4.54	0.20	0.01	A	0.07	-0.05	-0.01	A	0.41	0.21	0.01	A
19	6.73	-0.23	-0.01	B<	3.08	0.34	0.02	A	12.80	-0.37	-0.03	B<	11.25	-0.58	-0.04	B<	0.48	-0.23	-0.01	A
20	22.59	0.33	0.03	B>	2.03	-0.22	-0.02	A	0.06	0.02	0.00	A	0.42	-0.10	-0.01	A	2.98	-0.39	-0.03	A
21	8.15	0.20	0.02	B>	4.48	0.32	0.03	A	0.05	0.02	0.00	A	0.06	0.04	0.00	A	1.40	-0.27	-0.02	A
22	121.73	-0.84	-0.06	B<	0.36	0.10	0.01	A	65.99	-0.70	-0.06	B<	14.44	-0.60	-0.05	B<	1.45	-0.32	-0.02	A
23	17.48	0.29	0.03	B>	32.41	0.87	0.08	B>	44.88	0.53	0.05	B>	36.00	0.89	0.08	B>	14.36	0.88	0.07	B>
24	0.16	-0.03	0.00	A	3.50	0.28	0.02	A	4.94	0.17	0.02	A	1.72	0.20	0.02	A	0.19	0.11	0.01	A
25	40.19	0.46	0.04	B>	1.05	-0.16	-0.01	A	15.82	0.33	0.03	B>	1.35	0.18	0.02	A	0.30	-0.14	-0.01	A
26	66.53	0.58	0.05	B>	1.75	0.20	0.02	A	15.12	0.32	0.02	B>	1.69	-0.20	-0.02	A	0.78	0.22	0.02	A
27	33.30	0.41	0.03	B>	6.30	0.39	0.03	A	20.97	0.37	0.03	B>	6.98	0.40	0.04	B>	5.34	0.56	0.04	A
28	37.76	-0.45	-0.04	B<	5.81	-0.37	-0.03	A	12.65	-0.30	-0.02	B<	4.40	-0.32	-0.03	A	2.09	-0.36	-0.03	A
29	41.76	-0.46	-0.04	B<	9.26	-0.49	-0.04	B<	1.95	-0.12	-0.01	A	1.94	0.23	0.01	A	0.13	-0.09	-0.01	A
30	28.17	0.36	0.03	B>	0.00	0.01	0.00	A	24.33	-0.38	-0.04	B<	13.29	-0.53	-0.05	B<	0.00	-0.01	0.00	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to some item suppressions.

(table continues)

**Table 9.2.1.20 (continued)**  
**2008 Spring AIMS Differential Item Functioning Science CRT High School Form A**

Item	Reference: Male N = 11117 Focal: Female N = 11414				Reference: White N = 10174 Focal: African Am. N = 1407				Reference: White N = 10174 Focal: Hispanic N = 8979				Reference: White N = 10174 Focal: Native Am. N = 1443				Reference: White N = 10174 Focal: Asian N = 588			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	29.30	0.37	0.03	B>	0.02	0.03	0.00	A	0.00	0.01	0.00	A	0.74	-0.13	-0.01	A	0.52	0.17	0.01	A
32	7.59	-0.19	-0.02	B<	0.00	0.00	0.00	A	47.09	-0.55	-0.05	B<	4.16	-0.31	-0.03	A	0.57	0.19	0.02	A
33	13.04	0.25	0.02	B>	7.57	0.40	0.04	B>	5.91	0.19	0.02	A	0.32	-0.09	-0.01	A	6.25	0.56	0.05	A
34	58.19	0.52	0.05	B>	1.34	0.18	0.01	A	32.87	0.45	0.04	B>	2.18	-0.22	-0.02	A	2.75	0.38	0.03	A
35	31.78	-0.40	-0.03	B<	4.49	-0.32	-0.03	A	148.26	-0.97	-0.08	B<	13.76	-0.56	-0.05	B<	22.78	-1.11	-0.09	B<
36	45.87	0.47	0.04	B>	0.46	0.11	0.01	A	2.30	0.12	0.01	A	2.26	-0.23	-0.02	A	2.15	0.34	0.03	A
37	15.81	-0.28	-0.02	B<	15.84	-0.60	-0.05	B<	123.89	-0.88	-0.07	B<	11.80	-0.53	-0.05	B<	10.69	-0.73	-0.06	B<
38	27.00	-0.35	-0.03	B<	0.90	-0.14	-0.01	A	6.39	0.20	0.02	A	5.63	0.36	0.03	A	0.56	-0.17	-0.02	A
39	10.21	0.21	0.02	B>	8.56	0.42	0.04	B>	23.40	0.37	0.03	B>	25.75	0.72	0.07	B>	0.65	0.18	0.02	A
40	58.65	0.69	0.04	B>	7.09	0.51	0.03	B>	55.46	0.78	0.04	B>	44.14	1.25	0.08	B>	5.95	0.83	0.03	A
41	20.61	-0.32	-0.03	B<	0.09	-0.05	-0.01	A	1.40	-0.10	-0.01	A	3.90	-0.30	-0.03	A	0.10	0.09	0.01	A
42	0.02	0.01	0.00	A	7.84	0.44	0.03	B>	11.61	0.28	0.02	B>	17.85	0.67	0.05	B>	5.57	0.52	0.05	A
43	57.25	-0.52	-0.05	B<	0.02	0.03	0.00	A	0.35	-0.05	-0.01	A	5.29	-0.35	-0.03	A	0.67	0.19	0.02	A
44	6.10	0.19	0.02	A	0.31	-0.10	-0.01	A	5.57	-0.20	-0.01	A	0.00	0.00	0.00	A	0.83	-0.23	-0.02	A
45	66.74	-0.59	-0.05	B<	1.24	-0.18	-0.01	A	3.63	-0.16	-0.01	A	3.40	-0.30	-0.02	A	0.77	-0.21	-0.02	A
46	1.69	-0.10	-0.01	A	1.09	-0.16	-0.01	A	0.39	0.05	0.01	A	0.81	0.14	0.01	A	0.33	-0.15	-0.01	A
47	8.38	0.21	0.02	B>	3.53	0.29	0.02	A	44.50	0.55	0.05	B>	57.05	1.20	0.10	B>	0.28	0.14	0.01	A
48	2.28	-0.11	-0.01	A	16.02	-0.64	-0.05	B<	0.85	-0.08	-0.01	A	0.37	-0.10	-0.01	A	0.01	-0.03	0.00	A
49	3.22	0.13	0.01	A	10.09	0.48	0.04	B>	2.03	0.11	0.01	A	1.11	-0.17	-0.01	A	2.27	0.34	0.03	A
50	3.57	-0.14	-0.01	A	9.14	0.47	0.04	B>	16.32	-0.33	-0.02	B<	0.69	-0.13	-0.01	A	0.56	0.18	0.01	A
51	0.08	0.02	0.00	A	16.52	-0.63	-0.05	B<	14.71	-0.33	-0.02	B<	12.61	-0.55	-0.04	B<	11.48	-0.86	-0.06	B<
52	2.72	-0.11	-0.01	A	0.73	0.13	0.01	A	7.00	0.21	0.02	B>	1.16	0.16	0.01	A	0.87	-0.21	-0.02	A
53	0.44	-0.05	0.00	A	0.07	0.05	0.00	A	1.77	-0.11	-0.01	A	2.63	-0.25	-0.02	A	6.39	-0.57	-0.05	A
54	1.85	-0.09	-0.01	A	8.04	-0.44	-0.04	B<	3.24	-0.14	-0.01	A	5.14	-0.35	-0.03	A	3.03	-0.40	-0.04	A
55	0.65	0.06	0.01	A	0.42	-0.10	-0.01	A	8.53	-0.23	-0.01	B<	2.89	-0.25	-0.02	A	0.50	0.18	0.01	A
56	28.62	0.38	0.03	B>	0.09	-0.05	0.00	A	1.06	0.09	0.01	A	0.15	0.06	0.01	A	4.31	0.52	0.04	A
57	4.11	-0.14	-0.01	A	1.07	0.16	0.01	A	4.89	0.18	0.02	A	4.30	0.32	0.03	A	5.53	0.51	0.05	A
58	77.54	0.64	0.05	B>	1.57	0.21	0.02	A	10.65	0.27	0.02	B>	8.02	0.45	0.04	B>	6.41	0.57	0.05	A
59	8.26	0.20	0.02	B>	11.62	0.52	0.04	B>	2.58	0.13	0.01	A	0.85	-0.15	-0.01	A	5.67	0.52	0.05	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to some item suppressions.

(table continues)

**Table 9.2.1.20 (continued)**  
**2008 Spring AIMS Differential Item Functioning Science CRT High School Form A**

Item	Reference: Male N = 11117 Focal: Female N = 11414				Reference: White N = 10174 Focal: African Am. N = 1407				Reference: White N = 10174 Focal: Hispanic N = 8979				Reference: White N = 10174 Focal: Native Am. N = 1443				Reference: White N = 10174 Focal: Asian N = 588			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
60	0.38	-0.04	0.00	A	5.85	-0.37	-0.03	A	7.38	-0.21	-0.02	B<	5.60	-0.37	-0.03	A	5.16	-0.49	-0.05	A
61	0.66	0.06	0.00	A	0.26	-0.08	-0.01	A	0.07	-0.02	0.00	A	0.56	-0.12	-0.01	A	0.35	-0.14	-0.01	A
62	0.15	0.03	0.00	A	5.05	0.36	0.03	A	25.94	0.43	0.03	B>	19.19	0.70	0.05	B>	3.98	0.45	0.04	A
63	24.95	-0.40	-0.03	B<	3.04	-0.33	-0.02	A	6.66	-0.24	-0.02	B<	0.16	0.08	0.00	A	0.05	0.07	0.01	A
64	37.51	-0.42	-0.04	B<	0.92	0.15	0.01	A	5.49	0.19	0.02	A	7.57	0.42	0.04	B>	2.19	0.33	0.03	A

Note. African Am. = African American, Native Am. = Native American, MH  $\chi^2$  = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD = Standardized Mean Difference, A = No DIF, B = Weak DIF, C = Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to some item suppressions.

**Table 9.2.1.21**  
**2008 Spring AIMS Differential Item Functioning Science CRT High School Form B**

Item	Reference: Male N = 10986 Focal: Female N = 11027				Reference: White N = 10014 Focal: African Am. N = 1375				Reference: White N = 10014 Focal: Hispanic N = 8715				Reference: White N = 10014 Focal: Native Am. N = 1372				Reference: White N = 10014 Focal: Asian N = 591			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
1	110.20	-0.78	-0.06	B<	11.34	-0.52	-0.04	B<	87.87	-0.78	-0.07	B<	9.91	-0.49	-0.05	B<	10.53	-0.78	-0.06	B<
2	0.56	0.08	0.00	A	1.49	0.28	0.01	A	2.73	-0.21	-0.01	A	27.05	-1.03	-0.06	B<	1.93	-0.56	-0.01	A
3	20.11	0.38	0.02	B>	4.50	-0.37	-0.03	A	14.29	-0.36	-0.03	B<	47.81	-1.13	-0.09	B<	2.39	0.50	0.02	A
4	65.87	-0.59	-0.05	B<	20.86	-0.69	-0.06	B<	21.84	-0.38	-0.04	B<	2.06	-0.22	-0.02	A	5.46	-0.55	-0.04	A
5	44.09	0.56	0.03	B>	8.11	-0.49	-0.03	B<	0.40	-0.06	0.00	A	5.25	-0.39	-0.03	A	14.88	-1.01	-0.06	B<
6	19.73	0.32	0.03	B>	0.00	0.01	0.00	A	0.41	0.05	0.01	A	1.48	-0.19	-0.02	A	0.21	-0.12	-0.01	A
7	71.36	-0.73	-0.04	B<	0.00	0.00	0.00	A	2.25	0.15	0.01	A	0.18	0.08	0.01	A	6.87	-0.72	-0.04	B<
8	0.05	-0.02	0.00	A	15.02	-0.60	-0.05	B<	64.70	-0.66	-0.06	B<	82.73	-1.36	-0.13	B<	3.77	-0.46	-0.03	A
9	99.39	-0.70	-0.06	B<	6.22	-0.37	-0.03	A	0.68	0.07	0.00	A	0.00	0.01	0.00	A	0.02	-0.04	0.00	A
10	0.32	0.04	0.00	A	0.06	-0.04	0.00	A	0.10	0.03	0.01	A	0.00	0.00	0.00	A	0.02	-0.04	0.00	A
11	15.55	0.29	0.02	B>	0.88	0.15	0.01	A	5.15	-0.19	-0.02	A	0.94	0.15	0.01	A	1.76	0.34	0.02	A
12	0.55	-0.05	0.00	A	3.05	0.27	0.02	A	8.28	0.23	0.02	B>	5.86	0.37	0.03	A	0.18	-0.11	-0.01	A
13	1.57	0.11	0.01	A	6.90	-0.46	-0.03	B<	1.60	-0.12	-0.01	A	0.78	0.16	0.01	A	0.05	0.08	0.00	A
14	11.19	0.33	0.02	B>	0.00	-0.02	0.00	A	0.27	-0.06	0.00	A	4.18	0.39	0.03	A	0.00	-0.04	0.00	A
15	75.46	0.66	0.05	B>	1.45	-0.19	-0.02	A	7.51	0.24	0.01	B>	1.54	-0.20	-0.02	A	0.56	0.20	0.01	A
16	0.61	-0.08	0.00	A	3.70	-0.39	-0.02	A	0.10	-0.04	0.00	A	2.00	-0.28	-0.01	A	9.75	-1.05	-0.04	B<
17	7.72	0.20	0.02	B>	23.52	0.76	0.07	B>	20.96	0.38	0.03	B>	12.24	0.54	0.05	B>	4.80	0.55	0.04	A
18	133.22	1.01	0.06	B>	3.75	0.36	0.02	A	22.26	0.47	0.03	B>	18.65	0.78	0.06	B>	1.36	0.37	0.02	A
19	8.39	0.24	0.02	B>	0.15	-0.07	0.00	A	2.02	0.13	0.01	A	0.00	0.01	0.00	A	0.66	-0.23	-0.01	A
20	0.02	-0.02	0.00	A	1.76	-0.27	-0.01	A	0.13	0.04	0.00	A	19.82	-0.78	-0.05	B<	3.43	-0.67	-0.02	A
21	3.20	0.12	0.01	A	11.33	0.50	0.05	B>	23.67	0.38	0.04	B>	0.83	0.14	0.01	A	0.17	0.10	0.01	A
22	150.54	-1.12	-0.06	B<	24.55	-0.91	-0.05	B<	95.11	-1.01	-0.06	B<	68.49	-1.40	-0.10	B<	8.26	-0.86	-0.04	B<
23	0.01	-0.01	0.00	A	7.99	0.42	0.04	B>	1.88	0.11	0.01	A	1.71	0.20	0.02	A	5.91	0.55	0.05	A
24	85.66	0.70	0.05	B>	0.10	0.05	0.01	A	13.81	0.32	0.03	B>	8.69	0.47	0.04	B>	0.11	-0.09	-0.01	A
25	35.89	0.42	0.04	B>	12.67	0.54	0.05	B>	33.63	0.47	0.04	B>	1.52	0.19	0.02	A	1.40	0.28	0.02	A
26	15.91	0.27	0.03	B>	8.42	0.43	0.04	B>	14.05	0.29	0.03	B>	3.13	0.27	0.03	A	0.50	0.16	0.02	A
27	7.98	-0.19	-0.02	B<	2.66	0.25	0.02	A	1.38	0.09	0.01	A	7.80	0.43	0.04	B>	0.80	-0.20	-0.02	A
28	33.14	0.44	0.03	B>	0.60	0.13	0.01	A	13.27	0.31	0.03	B>	0.19	0.07	0.01	A	0.16	0.12	0.01	A
29	42.39	0.45	0.04	B>	2.29	-0.22	-0.02	A	23.91	-0.38	-0.04	B<	27.50	-0.78	-0.07	B<	3.68	-0.42	-0.04	A
30	21.62	0.33	0.03	B>	8.02	0.43	0.04	B>	20.20	0.36	0.03	B>	1.44	0.19	0.01	A	3.69	0.45	0.04	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to some item suppressions.

(table continues)

**Table 9.2.1.21 (continued)**  
**2008 Spring AIMS Differential Item Functioning Science CRT High School Form B**

Item	Reference: Male N = 10986 Focal: Female N = 11027				Reference: White N = 10014 Focal: African Am. N = 1375				Reference: White N = 10014 Focal: Hispanic N = 8715				Reference: White N = 10014 Focal: Native Am. N = 1372				Reference: White N = 10014 Focal: Asian N = 591			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
31	35.17	-0.41	-0.04	B<	0.00	-0.01	0.00	A	1.09	-0.08	-0.01	A	4.23	-0.32	-0.03	A	0.00	0.02	0.00	A
32	23.71	0.35	0.03	B>	8.80	0.46	0.04	B>	48.84	0.58	0.05	B>	6.50	0.39	0.04	A	0.00	0.03	0.00	A
33	8.59	-0.21	-0.02	B<	0.14	-0.06	-0.01	A	2.34	-0.13	-0.01	A	0.81	-0.15	-0.01	A	0.28	-0.13	-0.01	A
34	78.68	-0.63	-0.05	B<	7.14	-0.41	-0.04	B<	146.38	-0.97	-0.08	B<	18.41	-0.68	-0.06	B<	5.54	-0.54	-0.05	A
35	18.84	-0.30	-0.03	B<	2.79	-0.25	-0.02	A	0.95	-0.08	0.00	A	21.91	0.71	0.07	B>	0.06	-0.06	-0.01	A
36	2.77	-0.12	-0.01	A	0.29	-0.09	-0.01	A	0.05	-0.02	0.00	A	0.18	0.07	0.01	A	0.37	0.14	0.01	A
37	33.72	-0.39	-0.04	B<	0.00	0.00	0.00	A	3.26	-0.14	-0.02	A	1.18	-0.16	-0.02	A	12.80	-0.75	-0.07	B<
38	12.08	-0.24	-0.02	B<	2.25	0.23	0.02	A	21.22	0.36	0.03	B>	13.70	0.56	0.05	B>	2.54	0.37	0.03	A
39	59.42	0.64	0.04	B>	1.38	0.21	0.01	A	5.51	0.22	0.02	A	5.27	0.38	0.03	A	14.79	1.23	0.06	B>
40	136.82	0.81	0.08	B>	4.58	0.33	0.03	A	5.41	0.18	0.02	A	2.53	0.25	0.03	A	3.21	0.39	0.04	A
41	2.02	0.10	0.01	A	0.11	-0.05	0.00	A	5.25	0.18	0.02	A	0.00	-0.01	0.00	A	0.55	0.17	0.01	A
42	1.28	-0.08	-0.01	A	15.90	-0.64	-0.05	B<	32.47	-0.47	-0.03	B<	12.56	-0.59	-0.04	B<	18.88	-1.06	-0.08	B<
43	4.88	-0.15	-0.01	A	0.69	0.13	0.01	A	1.51	0.10	0.01	A	0.10	-0.05	0.00	A	0.01	0.03	0.00	A
44	14.24	0.29	0.02	B>	2.09	-0.25	-0.02	A	17.94	-0.37	-0.03	B<	0.01	-0.02	0.00	A	0.19	-0.10	-0.01	A
45	74.03	-0.63	-0.05	B<	0.91	-0.16	-0.01	A	1.13	-0.09	-0.01	A	7.52	0.44	0.04	B>	3.66	0.45	0.04	A
46	4.60	-0.16	-0.01	A	6.79	-0.39	-0.03	B<	0.43	0.06	0.01	A	2.11	0.23	0.02	A	0.37	0.16	0.01	A
47	17.22	0.31	0.02	B>	11.06	0.53	0.04	B>	71.96	0.73	0.06	B>	61.47	1.28	0.11	B>	0.77	0.22	0.02	A
48	13.66	-0.28	-0.02	B<	6.32	-0.40	-0.03	A	6.52	-0.22	-0.01	A	0.49	-0.12	-0.01	A	3.41	0.49	0.03	A
49	20.82	0.31	0.03	B>	14.51	0.56	0.05	B>	12.89	0.28	0.02	B>	5.38	-0.37	-0.03	A	1.28	0.25	0.02	A
50	21.22	-0.31	-0.03	B<	20.75	0.67	0.06	B>	68.18	0.65	0.05	B>	0.12	0.06	0.00	A	4.94	0.48	0.05	A
51	133.40	-0.79	-0.07	B<	3.28	-0.27	-0.03	A	12.42	-0.27	-0.03	B<	0.58	-0.12	-0.02	A	2.25	-0.33	-0.03	A
52	8.88	0.22	0.02	B>	0.67	0.13	0.01	A	0.99	0.08	0.01	A	4.52	-0.32	-0.02	A	0.81	0.23	0.02	A
53	10.23	0.26	0.02	B>	1.77	0.24	0.01	A	0.06	-0.02	0.00	A	3.40	0.33	0.02	A	8.83	0.69	0.05	B>
54	26.78	0.36	0.03	B>	1.29	-0.17	-0.01	A	0.37	-0.05	0.00	A	0.31	0.09	0.01	A	1.10	0.23	0.02	A
55	34.73	-0.44	-0.03	B<	0.04	0.04	0.00	A	34.17	-0.49	-0.04	B<	1.82	-0.22	-0.02	A	1.83	-0.32	-0.03	A
56	9.87	0.23	0.02	B>	1.42	-0.19	-0.01	A	0.02	-0.01	0.01	A	10.20	0.49	0.05	B>	1.26	-0.27	-0.02	A
57	1.06	0.08	0.01	A	6.82	0.42	0.03	B>	15.01	0.33	0.03	B>	30.83	0.90	0.07	B>	9.31	0.77	0.05	B>
58	60.49	0.58	0.05	B>	0.01	0.03	0.00	A	8.13	0.24	0.02	B>	7.08	0.44	0.04	B>	13.70	0.87	0.07	B>
59	0.31	0.04	0.00	A	2.65	0.25	0.02	A	1.71	0.10	0.00	A	0.15	0.07	0.00	A	1.91	0.30	0.03	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to some item suppressions.

(table continues)



**Table 9.2.1.21 (continued)**  
**2008 Spring AIMS Differential Item Functioning Science CRT High School Form B**

Item	Reference: Male N = 10986 Focal: Female N = 11027				Reference: White N = 10014 Focal: African Am. N = 1375				Reference: White N = 10014 Focal: Hispanic N = 8715				Reference: White N = 10014 Focal: Native Am. N = 1372				Reference: White N = 10014 Focal: Asian N = 591			
	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag	MH $\chi^2$	$\Delta$ MH	SMD	Flag
60	2.82	0.12	0.01	A	0.01	0.02	0.00	A	15.48	-0.30	-0.03	B<	5.72	-0.37	-0.04	A	5.16	-0.49	-0.05	A
61	21.51	-0.33	-0.03	B<	6.11	-0.38	-0.04	A	102.64	-0.81	-0.08	B<	13.68	-0.57	-0.06	B<	2.61	-0.38	-0.03	A
62	51.01	-0.47	-0.05	B<	4.09	-0.29	-0.03	A	0.01	0.01	0.00	A	6.95	0.38	0.04	B>	7.80	-0.59	-0.06	B<
63	25.91	-0.35	-0.03	B<	0.14	-0.06	0.00	A	1.55	0.10	0.01	A	0.21	0.08	0.01	A	0.01	0.03	0.00	A
64	18.75	-0.30	-0.03	B<	0.82	0.14	0.01	A	0.00	0.00	0.00	A	0.03	0.03	0.01	A	4.59	0.49	0.04	A

Note. African Am. = African American, Native Am.= Native American, MH  $\chi^2$ = Mantel-Haenszel Chi-Square,  $\Delta$ MH = Delta (MH-D DIF), SMD= Standardized Mean Difference, A= No DIF, B=Weak DIF, C=Strong DIF, < favors reference group, > favors focal group. Item number does not indicate test booklet location due to some item suppressions.

**Table 9.2.1.22**  
**DIF Statistics for Items Exhibiting Strong DIF**

Content	Grade	Form	Item #	Item Type	In favor of /		MH	$\Delta$ MH	SMD
					Against	Group			
Mathematics	3	--	11	MC	Against	Female	1229.62	-1.61	-0.09
Mathematics	3	--	24	MC	Against	Native American	365.43	-1.91	-0.13
Mathematics	7	--	1	MC	Against	Native American	289.91	-1.60	-0.12
Mathematics	HS	--	17	MC	Against	Asian	137.29	-1.76	-0.08
Reading	3	--	37	MC	In favor of	Asian	54.35	1.51	0.05
Reading	3	--	46	MC	In favor of	Native American	224.54	1.66	0.10
Reading	6	--	37	MC	Against	African American	248.80	-1.56	-0.09
Reading	6	--	37	MC	Against	Hispanic	974.79	-1.76	-0.10
Reading	6	--	37	MC	Against	Asian	103.66	-1.63	-0.05
Reading	7	--	4	MC	Against	Native American	322.36	-1.64	-0.13
Reading	7	--	73	MC	In favor of	Native American	484.45	2.34	0.16
Reading	HS	--	31	MC	Against	Female	3175.03	-2.43	-0.17
Science	4	A	10	MC	In favor of	Native American	39.92	1.95	0.04
Science	4	B	10	MC	In favor of	Native American	21.30	1.52	0.03
Science	8	A	6	MC	Against	Female	515.06	-1.87	-0.07
Science	8	A	6	MC	Against	Hispanic	383.93	-1.95	-0.09
Science	8	A	6	MC	Against	Asian	31.02	-1.73	-0.04
Science	8	A	45	MC	In favor of	Female	377.00	1.53	0.06
Science	8	A	45	MC	In favor of	Asian	25.33	1.79	0.04
Science	8	B	6	MC	Against	Female	612.58	-2.06	-0.08
Science	8	B	6	MC	Against	Hispanic	472.13	-2.18	-0.10
Science	8	B	6	MC	Against	Asian	28.86	-1.55	-0.03
Science	8	B	11	MC	Against	Native American	119.73	-1.61	-0.10

### 9.2.2 Correlations among AIMS Assessments

Correlations were examined between scale scores on 2008 Spring AIMS tests by grade level. Note that data used for the calculation of correlation included records with valid scale scores in all content areas and tests in each grade level. Sample sizes are therefore slightly lower than presented in other parts of this technical report.

In addition, because students in high school had different testing windows for the Reading, Writing and Mathematics tests, data merging was necessary to match Reading and Writing records with Mathematics records. After Reading, Writing, and Mathematics were merged, each of the Science forms was merged with the other contents to compute correlations. Once valid records were selected for each of the high school content areas, and records with duplicate student identification numbers were removed, data was merged based on student identification number. Table 9.2.2.1 presents the resulting reduction in N size for each step of the merge. Scale score means and distributions prior to and after the merge were compared to ensure that the match did not substantially alter the data. Only slight changes in mean and standard deviation occurred after the merge, and density plots illustrated that the shape of the distribution prior to and after merging matched reasonably well. Therefore, correlations presented for the high school Reading, Writing, and Mathematics are based on the matched data, with a total N size of 69,836, while correlations between Science Forms A and B and the other contents are based on the matched data with a total N size of 20,827 and 20,421.

All correlations are presented in Tables 9.2.2.2 through 9.2.2.8. The patterns of correlation presented in the tables are consistent with expectations given the constructs measured. Correlations were consistently high between tests designed to measure the same or very similar constructs (i.e., CRT Math and NRT Math or CRT Reading and NRT Reading). Correlations were much lower between tests designed to measure dissimilar constructs such as Math and Writing. Science showed relatively high correlation with Reading CRT (0.81) and Mathematics (0.77). Correlations between CRT Writing with other tests are attenuated which might be due to lowered reliability of the Writing test scores. Since appropriate measures of test reliability for the AIMS Writing test scores cannot be determined, the disattenuated correlations cannot be computed.

**Table 9.2.2.1**  
**Matching Process for High School Test Correlations Calculations**

Content	N Total Valid	N Valid in Both Reading and Writing	N with Missing or Duplicate SAIS	N Valid Prior to Merge	N Valid All Content with Matched SAIS
Reading	75,491	74,358	251	74,107	69,836
Writing	75,256				
Mathematics	73,940	NA	239	73,701	

Content	N Total Valid	N with Missing or Duplicate SAIS	N Valid Prior to Merge	N Valid All Content with Matched SAIS
Science - A	22,614	117	22,497	20,827
Science - B	22,106	134	21,972	20,421

After Reading, Writing and Mathematics were merged, each of the Science Forms was merged with N=69836.

**Table 9.2.2.2**  
**2008 Spring AIMS Correlations among Assessments**  
**Grade 3**

Test	1	2	3	4	5	6
1. RD CRT	--	0.60	0.82	0.84	0.79	0.74
2. WR CRT		--	0.55	0.57	0.58	0.53
3. MA CRT			--	0.70	0.71	0.85
4. RD NRT				--	0.73	0.65
5. LA NRT					--	0.66
6. MA NRT						--

Note. N size will be less than presented in other parts of this Technical Report due to missing or invalid test records in some but not all content areas. The N count for this table is **82993**.

**Table 9.2.2.3**  
**2008 Spring AIMS Correlations among Assessments**  
**Grade 4**

Test	1	2	3	4	5	6	7	8
1. RD CRT	--	0.56	0.78	0.80	0.74	0.68	0.81	0.81
2. WR CRT		--	0.54	0.53	0.54	0.49	0.51	0.50
3. MA CRT			--	0.66	0.69	0.82	0.77	0.77
4. RD NRT				--	0.67	0.59	0.68	0.69
5. LA NRT					--	0.63	0.67	0.67
6. MA NRT						--	0.67	0.68
7. SC-A							--	--
8. SC-B								--

Note. N size will be less than presented in other parts of this Technical Report due to missing or invalid test records in some but not all content areas. The N count for [RD,WR,MA,LA] = **81347**. The N count for SC-A = **38559**. The N count for SC-B = **37889**.

**Table 9.2.2.4**  
**2008 Spring AIMS Correlations among Assessments**  
**Grade 5**

Test	1	2	3	4	5	6
1. RD CRT	--	0.54	0.79	0.84	0.74	0.71
2. WR CRT		--	0.50	0.50	0.49	0.46
3. MA CRT			--	0.68	0.68	0.83
4. RD NRT				--	0.67	0.63
5. LA NRT					--	0.62
6. MA NRT						--

Note. N size will be less than presented in other parts of this Technical Report due to missing or invalid test records in some but not all content areas. The N count for this table is **81092**.

**Table 9.2.2.5**  
**2008 Spring AIMS Correlations among Assessments**  
**Grade 6**

Test	1	2	3	4	5	6
1. RD CRT	--	0.58	0.79	0.85	0.72	0.72
2. WR CRT		--	0.55	0.55	0.52	0.52
3. MA CRT			--	0.72	0.69	0.85
4. RD NRT				--	0.66	0.67
5. LA NRT					--	0.63
6. MA NRT						--

Note. N size will be less than presented in other parts of this Technical Report due to missing or invalid test records in some but not all content areas. The N count for this table is **81305**.

**Table 9.2.2.6**  
**2008 Spring AIMS Correlations among Assessments**  
**Grade 7**

Test	1	2	3	4	5	6
1. RD CRT	--	0.61	0.79	0.85	0.73	0.71
2. WR CRT		--	0.59	0.58	0.57	0.56
3. MA CRT			--	0.70	0.69	0.85
4. RD NRT				--	0.67	0.64
5. LA NRT					--	0.63
6. MA NRT						--

Note. N size will be less than presented in other parts of this Technical Report due to missing or invalid test records in some but not all content areas. The N count for this table is **80603**.

**Table 9.2.2.7**  
**2008 Spring AIMS Correlations among Assessments**  
**Grade 8**

Test	1	2	3	4	5	6	7	8
1. RD CRT	--	0.64	0.79	0.86	0.76	0.72	0.83	0.83
2. WR CRT		--	0.58	0.61	0.59	0.57	0.60	0.59
3. MA CRT			--	0.70	0.69	0.86	0.80	0.80
4. RD NRT				--	0.70	0.66	0.74	0.74
5. LA NRT					--	0.65	0.71	0.71
6. MA NRT						--	0.73	0.73
7. SC-A							--	--
8. SC-B								--

Note. N size will be less than presented in other parts of this Technical Report due to missing or invalid test records in some but not all content areas. The N count for [RD,WR,MA,LA] = **80282**. The N count for SC-A = **38398**. The N count for SC-B = **37938**.

**Table 9.2.2.8**  
**2008 Spring AIMS Correlations among Assessments**  
**High School**

Test	1	2	3	4	5
1. RD CRT	--	0.69	0.77	0.76	0.76
2. WR CRT		--	0.65	0.57	0.56
3. MA CRT			--	0.74	0.74
4. SC-A				--	--
5. SC-B					--

Note. N size will be less than presented in other parts of this Technical Report due to 1) missing or invalid test records in some but not all content areas and 2) matching Reading, Writing, Mathematics and Science records according to student identification number. The N count used for [RD,WR,MA]= **69836**. The N count used for SC-A = **20827**. The N count used for SC-B = **20421**.

## **Part 10: Classification**

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Part 10 of this technical report provides information regarding classifying students into proficiency categories. The following AERA/APA/NCME standards are covered in this part: 1.5, 1.7, 2.14, 2.15, 4.9, 4.19, 4.20, 4.21, and 6.5.

Scores from the 2008 Spring AIMS assessments are used to classify students into one of four performance categories: Falls Far Below the Standard, Approaches the Standard, Meets the Standard, and Exceeds the Standard. This part of the technical report provides information regarding classifying students into these four performance categories. Arizona educators made recommendations for cut scores for each category in standard setting workshops facilitated by CTB. Analyses were conducted to examine the consistency and accuracy with which students were assigned to performance categories.

### **10.1 Standard Setting Technical Documentation**

Standard setting for the AIMS CRT Mathematics and Reading tests was conducted in early May, 2005 using the Bookmark Standard Setting Procedure. All technical documentation regarding the standard setting is available in the Bookmark Standard Setting Technical Report, submitted by CTB/McGraw-Hill to the ADE in June 2005.

Standard setting for the AIMS CRT Writing tests was also conducted in May, 2005. The Body of Work Standard Setting Procedure was used for this standard setting. Technical documentation is available in the Body of Work Standard Setting Technical Report, submitted by CTB/McGraw-Hill to the ADE in June 2005.

Standard setting for the AIMS Science was conducted in early June, 2008 using the Bookmark Standard Setting Procedure. All technical documentation regarding the standard setting is available in the Bookmark Standard Setting Technical Report, submitted by CTB/McGraw-Hill to the ADE in August 2008.

Final scale score ranges for each of the four performance level categories for the AIMS CRT tests are presented below in Table 10.1.1.



**Table 10.1.1**  
**2008 Spring AIMS**  
**Final Scale Score Ranges by Performance Level**

Test		FFBS	AS	MS	ES
Mathematics					
	3	200-385	386-419	420-491	492-650
	4	230-413	414-447	448-520	521-675
	5	255-441	442-475	476-549	550-700
	6	270-462	463-495	496-573	574-725
	7	290-483	484-516	517-598	599-740
	8	300-504	505-536	537-622	623-800
	HS	500-667	668-682	683-749	750-900
Reading					
	3	200-378	379-430	431-515	516-640
	4	220-401	402-449	450-535	536-660
	5	240-423	424-467	468-555	556-675
	6	250-432	433-477	478-570	571-690
	7	260-442	443-488	489-586	587-720
	8	270-451	452-498	499-601	602-800
	HS	500-626	627-673	674-772	773-900
Writing					
	3	200-336	337-423	424-528	529-650
	4	230-365	366-460	461-571	572-700
	5	255-393	394-496	497-614	615-740
	6	275-399	400-503	504-629	630-760
	7	290-406	407-509	510-644	645-770
	8	300-412	413-516	517-659	660-800
	HS	500-609	610-677	678-753	754-900
Science					
	4	200-461	462-499	500-546	547-800
	8	200-472	473-499	500-531	532-800
	HS	200-474	475-499	500-536	537-800

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard.

## 10.2 Classification Consistency and Accuracy

This section describes the analyses conducted to estimate classification consistency and accuracy for the 2008 AIMS DPA and high school test administrations. Classification consistency can be defined as the agreement between examinees' performance category classification from two independent administrations of the same test (or two parallel forms of the test). Classification accuracy can be defined as the agreement between the actual classifications using observed cut scores and true classifications based on known true cut scores (Livingston & Lewis, 1995).

In conjunction with internal consistency, classification consistency is an important type of reliability and is particularly relevant to high stakes pass/fail tests such as the AIMS high school tests. As a form of reliability, classification consistency represents how reliably students can be classified into performance categories. Please see Part 9 of this report for more information on the internal consistency of the AIMS assessments.

For tests such as the AIMS high school assessments, classification consistency is most important for students whose ability is near the pass/fail cut score. Students whose ability is far above or far below the value established for passing are unlikely to be misclassified because repeated administration of the test will nearly always result in the same classification. Examinees whose true scores are close to the cut score are a more serious concern. These students' true scores will likely lie within the standard error of measurement of the cut score. For this reason, the measurement error at the cut scores should be considered when evaluating the classification consistency of a test. For convenience, the cut scores and their associated standard errors are presented in Table 10.2.3.1. Furthermore, the number of students near the cut scores should also be considered when evaluating classification consistency; these numbers show the number of students who are most likely to be misclassified. The number of students near the cut scores for each grade and content area can be found in the state scale score frequency distributions presented in Part 8 of this report.

Classification consistency and accuracy were estimated using the IRT procedure suggested by Lee, Hanson, and Brennan (2002) and Wang, Kolen and Harris (2000) for the AIMS assessments in Reading, Mathematics and Science. For the AIMS Writing assessment, procedures described by Livingston and Lewis (1995) were used to estimate classification consistency and accuracy. The following description of classification consistency and accuracy is based on the paper by Lee et al. (2002).

### 10.2.1 Classification Consistency

Assume that  $\theta$  is a single latent trait measured by a test and denote  $\Phi$  as a latent random variable. When a test  $X$  consists of  $K$  items and its maximum number-correct score is  $N$ , the marginal probability of the number-correct (NC) score  $x$  is

$$P(X = x) = \int P(X = x | \Phi = \theta)g(\theta)d\theta, \quad x = 0,1,\dots, N.$$

where  $g(\theta)$  is the density of  $\theta$ .

In this report, the marginal distribution  $P(X = x)$  is denoted as  $f(x)$ , and the conditional error distribution  $P(X = x | \Phi = \theta)$  is denoted as  $f(x | \theta)$ . It is assumed that examinees are classified into one of  $H$  mutually exclusive categories on the basis of predetermined  $H-1$  observed score cutoffs,  $C_1, C_2, \dots, C_{H-1}$ . Let  $L_h$  represent the  $h^{\text{th}}$  category into which examinees with  $C_{h-1} \leq X \leq C_h$  are classified.  $C_0 = 0$  and  $C_H =$  the maximum number-correct score. Then, the conditional and marginal probabilities of each category classification are as follows:

$$P(X \in L_h | \theta) = \sum_{x=C_{h-1}}^{C_h} f(x | \theta), \quad h = 1, 2, \dots, H.$$

$$P(X \in L_h) = \int \sum_{x=C_{h-1}}^{C_h} f(x | \theta)g(\theta)d\theta, \quad h = 1, 2, \dots, H.$$

Because obtaining test scores from two independent administrations of AIMS was not feasible due to security, logistic, and cost constraints, a psychometric model was used to obtain the estimated classification consistency indices using test scores from a single administration. Based on the

psychometric model, a symmetric H\*H contingency table can be constructed. The elements of H\*H contingency table consist of the joint probabilities of the row and column observed category classifications.

That two administrations are independent implies that if  $X_1$  and  $X_2$  represent the raw score random variables on the two administrations, then, conditioned on  $\theta$ ,  $X_1$  and  $X_2$  are independent and identically distributed. Consequently, the conditional bivariate distribution of  $X_1$  and  $X_2$  is

$$f(x_1, x_2 | \theta) = f(x_1 | \theta)f(x_2 | \theta).$$

The marginal bivariate distribution of  $X_1$  and  $X_2$  can be expressed as follows:

$$f(x_1, x_2) = \int f(x_1, x_2 | \theta)f(\theta)d\theta.$$

Consistent classification means that both  $X_1$  and  $X_2$  fall in the same category. The conditional probability of falling in the same category on the two administrations is

$$P(X_1 \in L_h, X_2 \in L_h | \theta) = \left[ \sum_{x_1=C_{h-1}}^{C_{h-1}} f(x_1 | \theta) \right]^2, \quad h = 1, 2, \dots, H.$$

The agreement index  $P$ , conditional on theta, is obtained by

$$P(\theta) = \sum_{h=1}^H P(X_1 \in L_h, X_2 \in L_h | \theta).$$

The agreement index (classification consistency) can be computed as

$$P = \int P(\theta)g(\theta)d(\theta).$$

The probability of consistent classification by chance,  $P_C$ , is the sum of squared marginal probabilities of each category classification.

$$P_C = \sum_{h=1}^H P(X_1 \in L_h)P(X_2 \in L_h) = \sum_{h=1}^H [P(X_1 \in L_h)]^2.$$

Then, the coefficient kappa (Cohen, 1960) is

$$k = \frac{P - P_C}{1 - P_C}$$

### 10.2.2 Classification Accuracy

Let  $\Gamma_w$  denote true category. When an examinee has an observed score,  $x \in L_h$  ( $h = 1, 2, \dots, H$ ), and a latent score,  $\theta \in \Gamma_w$  ( $w = 1, 2, \dots, H$ ), an accurate classification is made when  $h = w$ . The conditional probability of accurate classification is

$$\gamma(\theta) = P(X \in L_w | \theta),$$

where  $w$  is the category such that  $\theta \in \Gamma_w$ .

### 10.2.3 Classification Consistency and Accuracy Results

As mentioned above, for convenience, the cut scores and their associated standard errors are presented in table 10.2.3.1. Table 10.2.3.2 presents results from the classification consistency and classification accuracy analyses. These results are for classifying students into four performance levels. Included in the table for each grade and content area are case counts (N), classification consistency (Agreement), classification inconsistency (Inconsistency), probability of consistent classification by chance (Chance), Cohen's Kappa (Kappa), and classification accuracy (Accuracy). Inconsistency is defined as 1-agreement.

The 2008 AIMS classification consistency and accuracy results are consistent with classification analyses from the previous AIMS administration. It is important to note that the classification results are dependent on the number of cut scores maintained in a testing program. Moreover, the acceptability of the classification results should be evaluated with respect to the associated stakes of the testing program. The results for the AIMS assessments are quite consistent with other testing programs with similar structure and purpose.

**Table 10.2.3.1**  
**2008 Spring AIMS**  
**Standard Error of Measurement at Cut Scores**

Test	AS		MS		ES	
	Cut Score	SEM	Cut Score	SEM	Cut Score	SEM
Mathematics						
3	386	11	420	11	492	15
4	414	12	448	12	521	17
5	442	11	476	11	550	16
6	463	12	496	12	574	18
7	484	11	517	11	599	17
8	505	13	537	13	623	19
HS	668	8	683	8	750	12
Reading						
3	379	13	431	12	516	19
4	402	11	450	11	536	21
5	424	12	468	12	556	21
6	433	12	478	12	571	22
7	443	13	489	13	587	22
8	452	15	499	14	602	24
HS	627	14	674	13	773	20
Writing						
3	337	14	424	16	529	13
4	366	15	461	15	572	14
5	394	17	497	16	615	14
6	400	17	504	17	630	15
7	407	17	510	17	645	12
8	413	18	517	19	660	13
HS	610	9	678	9	754	8
Science						
4-A	462	15	500	15	547	18
4-B	462	15	500	15	547	18
8-A	473	14	500	14	532	16
8-B	473	14	500	14	532	15
HS-A	475	14	500	15	537	16
HS-B	475	14	500	14	537	16

Note. FFBS = Falls Far Below the Standard; AS = Approaches the Standard; MS = Meets the Standard; ES = Exceeds the Standard.

**Table 10.2.3.2**  
**2008 Spring AIMS**  
**Classification Consistency and Accuracy**

Test	N	Agreement	Inconsistency	Chance	Kappa	Accuracy
Mathematics						
03	83299	0.79	0.21	0.33	0.69	0.85
04	81568	0.79	0.21	0.33	0.68	0.85
05	81303	0.80	0.20	0.33	0.71	0.86
06	81577	0.79	0.21	0.32	0.69	0.85
07	80807	0.80	0.20	0.35	0.69	0.86
08	80506	0.79	0.21	0.32	0.68	0.85
HS	98746	0.80	0.20	0.32	0.70	0.85
Reading						
03	83305	0.80	0.20	0.37	0.68	0.86
04	81589	0.81	0.19	0.40	0.68	0.87
05	81330	0.79	0.21	0.40	0.65	0.85
06	81604	0.80	0.20	0.41	0.67	0.86
07	80827	0.80	0.20	0.42	0.65	0.86
08	80537	0.79	0.21	0.41	0.65	0.85
HS	93594	0.80	0.20	0.41	0.66	0.86
Writing						
03	83184	0.84	0.16	0.54	0.66	0.86
04	81540	0.90	0.10	0.53	0.79	0.92
05	81317	0.91	0.09	0.52	0.82	0.93
06	81529	0.87	0.13	0.54	0.72	0.90
07	80856	0.89	0.11	0.52	0.78	0.92
08	80569	0.91	0.09	0.61	0.76	0.93
HS-A	87441	0.86	0.14	0.42	0.76	0.90
HS-T	3345	0.85	0.15	0.33	0.78	0.89
Science						
4-A	39608	0.71	0.29	0.26	0.61	0.80
4-B	38989	0.71	0.29	0.26	0.61	0.79
8-A	39221	0.71	0.29	0.26	0.61	0.79
8-B	38742	0.71	0.29	0.26	0.61	0.79
HS-A	33188	0.73	0.27	0.31	0.61	0.80
HS-B	32528	0.73	0.27	0.30	0.62	0.80

Note. High school results include students in all cohorts. Results for Reading, Mathematics and Science were computed with the IRT method suggested by Lee, Hanson and Brennan (2002) and Wang, Kolen, and Harris (2000). Results for Writing were computed using the Livingston-Lewis procedure (1995), implemented with BB-CLASS (Brennan, 2004).

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## **APPENDIX A**

### **Fall 2007 AIMS Administration**

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#### **Overview:**

The Fall 2007 AIMS assessments were administered in Reading, Writing and Mathematics to students in high school who were in grades 11 and 12 and had not yet obtained a passing score on one or more of the content areas. These assessments were written to the Arizona content standards and were designed to measure student performance with respect to these standards. The Fall 2007 AIMS assessments in Reading and Mathematics were multiple-choice, criterion-referenced tests. The Fall 2007 AIMS Writing assessment consisted of a single extended response essay prompt.

#### **Test Design, Development, and Administration:**

The design and development of the Fall 2007 AIMS assessments reflect the same guiding principals that were followed for the Spring 2007 AIMS assessments. Arizona teachers, curriculum specialists and administrators from across the state were an integral part of the AIMS test development process. More information regarding the committee meetings, the test blueprints, and the test development process is contained in Parts 3 and 4 of this technical report.

The test design and structure of the Fall 2007 AIMS assessment mirrored the structure of the AIMS assessments administered in spring. That is, the Reading test consisted of 54 multiple choice items developed by Arizona teachers. Raw scores range from 0-54 and scale scores range from 500 to 900. Similarly, the Mathematics test consisted of 85 multiple choice items developed by Arizona teachers. Raw scores range from 0-85 and scale scores range from 500 to 900. Finally, the AIMS Writing assessment consisted of one extended response writing prompt. Responses to the prompt were scored on the 6-trait analytic rubric. Each trait received two ratings. Final scores for traits with adjacent ratings were derived by averaging the two ratings. The raw scores ranged from 0-36 and scale scores were designed to range from 500 to 900. There are no norm-referenced items included in the high school AIMS assessments.

The test selection process for the Fall 2007 AIMS was designed such that resulting tests matched the Spring 2007 AIMS in overall test difficulty and content coverage. The test selection process is described in Part 4 of this report.

Test administration procedures for the Fall 2007 AIMS are described in Part 5 of this report.

#### **Scaling and Equating:**

The Fall 2007 AIMS administration was designed for students who were retaking the assessment because they had not obtained a passing score on one or more of the content areas. The population of students that retake the AIMS assessments varies from administration to administration in terms of its composition and achievement. Moreover, expediency in the reporting of results to the population of students who are retaking the AIMS assessments was considered to be a priority. For these reasons, a pre-equating model was adopted for the Fall AIMS administration.

Pre-equating takes advantage of an existing bank of previously calibrated and scaled items such that an equated form and an associated number correct to scale score conversion table can be constructed prior to operational administration. The Fall 2007 assessment was constructed from

items that had been previously administered in the Spring 2007 AIMS administration and had been calibrated and linked to the operational scale of measurement using the Rasch measurement model. Using the existing item parameters for the items selected to be on Fall 2007 AIMS assessment, the number correct to AIMS scale score conversion tables were created. The raw score to scale score conversions, including the standard error of measurement (SEM) for each scaled score, are presented in Tables A.1 through A.3.

### **Fall 2007 AIMS Test Results:**

The results of the Fall 2007 AIMS are reported in Tables A.4 through A.6. Results presented below are based on population data contained within the final electronic data files. The results presented in this part of the technical report may differ slightly from final testing results presented on the Arizona Department of Education website due to slight differences in the application of exclusion rules. Official final results typically use more detailed school-level information than is used to conduct research analyses. The results in the following tables are presented as evidence of reliability and validity of the AIMS assessments and should not be used for state accountability purposes.

Results for AIMS high school assessments are reported by graduating cohort. Cohort 09 is defined as the group of students that will be graduating in 2009, and typically includes 11<sup>th</sup> grade students. Cohort 08 is defined as the group of students that will be graduating in 2008, and is typically comprised of seniors. Cohort 07 is defined as the group of students that were expected to have graduated in 2007 or prior. For each cohort, scale score means and standard deviations as well as the percentages of students in each performance level are presented for the state as a whole and disaggregated into various demographic groups. Disaggregated results were produced for the various groups by using demographic data on student answer documents.

**Table A.1**  
**2007 Fall AIMS Raw Score to Scale Score Table**  
**Mathematics CRT High School**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	500	38	43	674	8
1	507	35	44	675	8
2	531	25	45	677	8
3	546	21	46	679	8
4	557	18	47	681	8
5	565	16	48	683	8
6	572	15	49	685	8
7	578	14	50	687	8
8	584	13	51	689	8
9	589	13	52	691	8
10	593	12	53	693	8
11	597	12	54	695	8
12	601	11	55	697	8
13	605	11	56	699	8
14	608	11	57	701	8
15	611	10	58	703	9
16	614	10	59	705	9
17	617	10	60	707	9
18	620	10	61	709	9
19	623	10	62	712	9
20	625	9	63	714	9
21	628	9	64	716	9
22	630	9	65	719	9
23	633	9	66	722	9
24	635	9	67	724	10
25	637	9	68	727	10
26	640	9	69	730	10
27	642	9	70	733	10
28	644	9	71	736	10
29	646	8	72	739	11
30	648	8	73	743	11
31	650	8	74	746	12
32	652	8	75	750	12
33	654	8	76	755	12
34	656	8	77	759	13
35	658	8	78	765	14
36	660	8	79	771	15
37	662	8	80	778	16
38	664	8	81	786	18
39	666	8	82	797	20
40	668	8	83	811	25
41	670	8	84	836	35
42	672	8	85	900	87

Note. SEM is the standard error of measurement for the scale score. High school Mathematics scale scores are not on the same vertical scale as grades 3-8.

**Table A.2**  
**2007 Fall AIMS Raw Score to Scale Score Table**  
**Reading CRT High School**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	500	34	28	663	13
1	500	34	29	667	13
2	507	31	30	671	13
3	526	26	31	675	13
4	539	23	32	678	13
5	550	21	33	682	13
6	560	19	34	686	13
7	568	18	35	690	13
8	575	17	36	694	13
9	581	16	37	698	13
10	587	16	38	702	14
11	593	15	39	707	14
12	598	15	40	711	14
13	603	14	41	716	14
14	608	14	42	721	15
15	613	14	43	726	15
16	617	14	44	732	16
17	621	13	45	738	16
18	625	13	46	744	17
19	630	13	47	752	18
20	633	13	48	760	19
21	637	13	49	769	21
22	641	13	50	780	23
23	645	13	51	794	26
24	649	13	52	813	31
25	652	13	53	844	44
26	656	13	54	900	81
27	660	13			

Note. SEM is the standard error of measurement for the scale score. High school Reading scale scores are not on the same vertical scale as grades 3-8.

**Table A.3**  
**2007 Fall AIMS Raw Score to Scale Score Table**  
**Writing CRT High School**

Raw Score	Scale Score	SEM	Raw Score	Scale Score	SEM
0	500	31	18.5	666	9
0.5	500	31	19	671	9
1	500	31	19.5	676	9
1.5	500	31	20	681	9
2	500	31	20.5	686	9
2.5	500	31	21	690	9
3	500	31	21.5	696	9
3.5	500	31	22	701	10
4	500	31	22.5	708	10
4.5	500	31	23	714	10
5	500	31	23.5	721	10
5.5	500	31	24	727	10
6	500	31	24.5	733	9
6.5	524	16	25	738	9
7	547	10	25.5	743	9
7.5	553	9	26	748	8
8	558	9	26.5	752	8
8.5	563	9	27	756	8
9	567	9	27.5	760	8
9.5	572	9	28	764	8
10	577	9	28.5	769	8
10.5	583	9	29	773	8
11	588	9	29.5	777	8
11.5	593	9	30	781	8
12	598	9	30.5	786	8
12.5	603	9	31	790	8
13	608	9	31.5	794	8
13.5	613	9	32	798	8
14	617	9	32.5	803	9
14.5	622	9	33	808	9
15	627	9	33.5	814	10
15.5	632	9	34	820	11
16	637	9	34.5	840	18
16.5	643	10	35	860	32
17	648	10	35.5	880	60
17.5	654	10	36	900	111
18	660	10			

Note. SEM is the standard error of measurement for the scale score. High school writing scale scores are not on the same vertical scale as grades 3-8.

**Table A.4**  
**2007 Fall AIMS Results**  
**Mathematics CRT High School**

	N	Scale Score		% at Performance Level			
		M	SD	FFBS	AS	MS	ES
<b>Cohort 09</b>							
Total	26395	681.00	35.39	38	21	35	6
Ethnic Background							
White (Not Hispanic)	9342	693.24	40.30	28	17	43	12
Black or African American	1955	672.04	31.04	47	20	31	2
Hispanic or Latino	12091	674.26	29.42	43	23	32	2
American Indian or Alaskan Native	2164	668.15	25.38	49	25	24	1
Asian or Pacific Islander	533	705.67	43.40	21	13	46	20
Special Program Membership							
Title 1	688	664.18	25.56	58	20	22	0
English Learner Program	1176	662.15	22.86	61	21	18	0
Special Education	1909	651.78	21.58	78	13	9	0
<b>Cohort 08</b>							
Total	12916	675.94	32.96	43	22	31	4
Ethnic Background							
White (Not Hispanic)	3896	685.14	39.70	37	18	37	9
Black or African American	1044	669.59	29.59	50	20	28	2
Hispanic or Latino	6271	671.75	27.70	45	25	28	2
American Indian or Alaskan Native	1322	669.02	25.99	49	23	27	1
Asian or Pacific Islander	245	700.19	41.63	23	18	43	17
Special Program Membership							
Title 1	394	663.31	22.62	56	25	19	0
English Learner Program	688	664.20	24.73	60	21	19	1
Special Education	1329	651.21	22.26	77	15	8	0
<b>Cohort 07</b>							
Total	2867	663.75	24.93	58	22	19	1
Ethnic Background							
White (Not Hispanic)	582	668.13	30.00	52	21	25	2
Black or African American	222	657.33	26.47	68	18	13	1
Hispanic or Latino	1606	663.56	22.69	59	21	19	0
American Indian or Alaskan Native	394	661.33	21.52	59	25	15	0
Asian or Pacific Islander	45	665.98	36.18	58	18	20	4
Special Program Membership							
Title 1	118	655.47	20.65	71	19	10	0
English Learner Program	253	661.33	23.48	62	23	14	1
Special Education	272	644.56	18.22	88	9	4	0

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, off-grade, or a non-standard accommodation are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.

**Table A.5**  
**2007 Fall AIMS Results**  
**Reading CRT High School**

	N	Scale Score		% at Performance Level			
		M	SD	FFBS	AS	MS	ES
<b>Cohort 09</b>							
Total	19400	666.92	38.75	15	41	42	1
Ethnic Background							
White (Not Hispanic)	5332	680.73	45.06	11	32	54	3
Black or African American	1430	663.88	36.28	17	42	41	0
Hispanic or Latino	10162	660.71	33.69	17	45	37	0
American Indian or Alaskan Native	1860	659.68	31.83	17	48	35	0
Asian or Pacific Islander	355	676.33	44.55	12	38	46	4
Special Program Membership							
Title 1	627	657.72	36.77	21	45	34	0
English Learner Program	1249	644.14	29.87	31	52	18	0
Special Education	1795	642.87	32.69	35	47	19	0
<b>Cohort 08</b>							
Total	8602	662.24	40.06	19	44	36	1
Ethnic Background							
White (Not Hispanic)	1936	675.30	51.08	18	33	45	4
Black or African American	670	658.67	40.08	21	43	34	1
Hispanic or Latino	4707	657.05	33.60	19	48	32	0
American Indian or Alaskan Native	968	658.50	32.02	17	50	32	0
Asian or Pacific Islander	195	675.63	48.24	16	36	43	5
Special Program Membership							
Title 1	343	655.01	35.80	25	45	30	0
English Learner Program	743	645.96	31.35	29	51	20	0
Special Education	1048	640.09	32.30	38	45	17	0
<b>Cohort 07</b>							
Total	2109	654.05	37.73	25	46	27	1
Ethnic Background							
White (Not Hispanic)	328	670.95	50.07	21	35	39	4
Black or African American	168	648.15	41.72	35	39	25	1
Hispanic or Latino	1253	650.65	33.34	25	50	25	0
American Indian or Alaskan Native	298	654.01	31.39	23	50	27	0
Asian or Pacific Islander	49	647.04	33.81	35	33	33	0
Special Program Membership							
Title 1	112	647.16	34.76	28	52	21	0
English Learner Program	272	642.45	30.68	32	52	15	0
Special Education	228	633.89	32.69	49	40	11	0

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, off-grade, or a non-standard accommodation are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.

**Table A.6**  
**2007 Fall AIMS Results**  
**Writing CRT High School**

	N	Scale Score		% at Performance Level			
		M	SD	FFBS	AS	MS	ES
<b>Cohort 09</b>							
Total	18640	676.24	47.37	8	39	51	2
Ethnic Background							
White (Not Hispanic)	5686	686.65	46.50	6	32	58	4
Black or African American	1237	671.60	52.56	10	40	48	2
Hispanic or Latino	9280	670.74	45.87	9	43	47	1
American Indian or Alaskan Native	1811	672.17	46.79	9	41	49	1
Asian or Pacific Islander	344	686.36	50.34	7	31	56	6
Special Program Membership							
Title 1	615	665.92	48.91	11	46	42	1
English Learner Program	1180	646.38	51.87	19	53	27	0
Special Education	1717	644.93	49.55	20	56	23	0
<b>Cohort 08</b>							
Total	7641	668.10	50.74	11	45	42	2
Ethnic Background							
White (Not Hispanic)	2076	678.13	52.55	9	39	48	4
Black or African American	539	664.42	56.88	14	42	42	2
Hispanic or Latino	3919	662.81	46.84	11	50	38	1
American Indian or Alaskan Native	817	662.14	51.59	12	49	37	1
Asian or Pacific Islander	168	691.40	54.15	5	32	52	11
Special Program Membership							
Title 1	307	661.27	50.33	14	47	39	1
English Learner Program	665	645.26	51.83	20	53	27	0
Special Education	1058	641.98	49.85	22	56	22	0
<b>Cohort 07</b>							
Total	1933	656.62	52.40	15	49	34	1
Ethnic Background							
White (Not Hispanic)	337	666.85	61.69	17	35	43	5
Black or African American	139	640.21	63.99	24	52	23	1
Hispanic or Latino	1152	655.42	47.36	15	52	33	0
American Indian or Alaskan Native	252	659.82	46.69	11	55	34	0
Asian or Pacific Islander	41	639.83	70.14	22	46	32	0
Special Program Membership							
Title 1	109	652.74	52.46	18	46	36	0
English Learner Program	266	638.19	49.42	23	56	21	0
Special Education	234	628.66	53.85	30	54	15	0

Note. FFBS= Falls Far Below the Standard; AS= Approaches the Standard; MS= Meets the Standard; ES= Exceeds the Standard. Students with no valid attempt, invalidation, off-grade, or a non-standard accommodation are not included in this summary. In addition, home-schooled students, students attending Bureau of Indian Affairs schools, students attending juvenile corrections centers, students attending state hospital schools, and students who already met expectations in a previous test administration are not included in this summary. These results are not final results and are presented here for purposes of addressing reliability and validity. These results should not be used for accountability purposes.



## **APPENDIX B**

### **Equating and Scaling Science Assessments**

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Spring 2008 is the first operational administration of Science assessments as part of AIMS. The AIMS Spring 2008 Science consists of two operational forms (A and B) at the three tested grades, 4, 8, and HS. The main purpose of this paper is to describe procedures for equating and scaling the Science assessments.

Two test forms were spiraled in the classroom. In each grade level there were operational items consisting of common items and non-common items across the two forms. Therefore common-item equivalent groups design was used for equating. There was a two-step calibration/equating:

#### **Step 1: Evaluate stability of common items across forms.**

The purpose of this step is to evaluate/check the stability of the current common items across forms. The result of this step was a list of items from the pool of common items that served as final common items for equating the two forms.

First, forms A and B were calibrated in independent calibrations. Form A was calibrated, including only form A operational items and students who took Form A. Then Form B was calibrated, including only form B operational items and students who took Form B.

Next, after independent calibration, the logit student mean and standard deviation for each form were computed. Form A was considered the base form and transformation constants, to put the form B parameters on the form A scale, for purposes of this evaluation, were computed as

$$M1 = \text{Form A SD} / \text{Form B SD}$$
$$M2 = \text{Form A Mean} - (\text{Form B Mean} * M1)$$

M1 and M2 were then be applied to all Form B parameters.

Then, a plot of Rasch values for the common items were generated, with Test A on the X-axis and Test B on the Y-axis. An identity line was drawn to visually check locations of the common items. Also, the delta method was used to evaluate outliers. Items that were considered outliers were dropped from common items.

Finally, Form B (form B students and items) was calibrated once again; this time using the common item set determined above with the Form A parameter values used as “anchor” parameters for the Form B test. Displacement of the anchor items was evaluated. Anchor items with displacement of greater than |0.3| were considered to be dropped from the final anchor set. ADE and CTB discussed the list of items for the final anchor set. This final anchor set was used as the common item set for Step 2.

**Step 2: Equate using final anchor items established in Step 1.**

In order to equate the two forms, the data was concurrently calibrated using the common items design.

First, a response file was generated in which all items for form A were included first in test booklet order. Responses to final common items were populated for students taking form B as well. Remaining items were then included for form B in test booklet order. The items were calibrated together. Note that the scoring tables produced by Winsteps at this step were not the final scoring tables for Science (as they included the union of Form A and Form B items); rather, the item parameters generated were used to generate scale score tables based on the items present on each form, for use in the standard setting item maps (location numbers).

Table 1 Example Item Response Structure for Concurrent Calibration in Step 2

	Form A Items In Test Booklet Order (Note designated final anchor items are populated for Form B student as well)	Form B Unique Items
Student who takes Form A	11000110011111111111111000101010011	
Student Who takes Form B	0 1 110 1 1 1 0 11	1100011001000111111011

Once concurrent calibration was complete, and the equated item parameters established, raw score to logit scoring tables were generated for the set of items comprising form A and the set of items comprising form B. To do this, dummy student response files and item parameter files with the parameters for each of the items needed to be generated for Winsteps for each form.



For example, if Meets cut score is 498 for grade 4, the new M2 is 468.1765 (= 466.1765 + (500 – 498)). Final (new) M1 and M2 values can be found in the following Table 4.

Table 4. Science Final M1 and M2

Grade	Form	Old M1	Old M2	Meets	New M1	New M2
4	A	49.0196	466.1765	498	49.0196	468.1765
4	B	49.0196	466.1765	498	49.0196	468.1765
8	A	48.0769	471.1538	499	48.0769	472.1538
8	B	48.0769	471.1538	499	48.0769	472.1538
HS	A	52.0833	485.9375	522	52.0833	463.9375
HS	B	52.0833	485.9375	522	52.0833	463.9375

Note. Meets refers to the cut score for Meets the Standard obtained from standard setting.

## **APPENDIX C**

### **Item Writer Selection Criteria**

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AIMS Committee Participant Selection Criteria

# **ARIZONA DEPARTMENT OF EDUCATION**

## **PROCEDURE FOR SELECTION OF EDUCATOR COMMITTEES**

### **ARIZONA ASSESSMENT SECTION**

Although our database contains over 1000 educators, the Assessment Section is always recruiting new teachers to serve on the committees, and have prevailed upon veteran teachers to become Ambassadors of the Assessment by encouraging their colleagues to apply.

Once Arizona educators are identified and entered into the database, the Assessment Section uses the following procedures for selecting membership for a committee:

- Identify the purpose/function of the committee
- Establish the date and time of the committee
- Determine the criteria for membership on the committee:
  - Content area of expertise
  - Grade level experience
  - Specific skill or knowledge expertise for committee function
  - Prior experience on ADE committees—a minimum 50% of each committee will have prior experience
  - Location of district/school
    - Rural/urban/suburban
    - Approximately 50% of committee members from Maricopa County when appropriate for purpose of committee
  - Ethnicity of school population or committee member
  - SES of school population
  - Number of committees served on recently—a committee member cannot serve on a series of committees used to develop items. Otherwise, they would be passing judgment on their own prior work. (This is a change in procedure)\*
- Review the database for educators that meet the criteria established
- Select committee members based on criteria for particular committee for primary and alternate list
- Invitations are sent to selected committee members on primary list \*\*
- After decline and accept emails are received by established deadline, additional invitations issued to members on alternate list
- Committee meeting held
- Review performance of participants

\* ADE is concerned that utilizing the same committee members on a series of committees will reduce the input from a variety of educators and have requested that past committee participation be part of the selection process. As the pool of teachers expands, individual members will serve on fewer committees.

\*\* It is not the policy to inform all members in our database of scheduled committee meetings, but only those invited to a particular meeting.

Beginning in April of 2006, all past participants have been invited to update their applications on a yearly basis in order to have the most current information in the database. Also, when Arizona educators participate on a committee, they are asked to review their information and note anything that might have changed. The application identifies the demographics of each committee member: geographic location in Arizona, ethnicity of school/district population and/or committee participant, and a detailed biographical background including participation on AIMS committees.

In order to replace past participants who have moved, changed positions, or no longer possess the time to serve, a recruitment letter was sent in October of 2006 to solicit recommendations from District Superintendents regarding prospective educators whose expertise and participation could be of great benefit. The ADE is constantly recruiting Arizona educators to serve on the various AIMS committees as well as encouraging retention of its veteran contributors and recognizing them as excellent Ambassadors of the Assessment.

## **APPENDIX D**

### **Item Writing Workshop for Reading and Mathematics**

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Following are the PowerPoint slides used during the AIMS Item Writing Workshop in March, 2006.

## An Item Writing Activity



1



## CTB Reading Staff

**Toni Gibbs** – Development Supervisor and  
Grade 3 & 4 Facilitator

**Gale Weir** – Grade 5 & 6 Facilitator

**Mark Rathjen** – Grade 7 & 8 Facilitator

**Kellie Crain** – HS Facilitator



## CTB Math Staff

**Dan Dube** – Development Supervisor

**Lynn Fitch** – Grade 3 & 4 Facilitator

**Linda Chambers** – Grade 5 & 6 Facilitator

**Darren Schmidt** – Grade 7 & 8 Facilitator

**Mary Foster** – HS Facilitator



## CTB Science Staff

**Michael Frontz** – Development Supervisor  
and Grade 4 Facilitator

**Kris Paulsen-Hands** – Grade 8 Facilitator

**Randi Rieman-Johns** – HS Facilitator



## Welcome or Welcome Back!

### Requirements:

- Content and assessment expertise
- Ability to be innovative
- Willingness to adhere to detailed item specifications
- Desire to be part of the AIMS development process

## Goal = to create the new field test items needed for Spring 2007

- **Reading committees** – will edit a few previously-written items associated with some unused passages, and will write approximately 15 new items for each new passage.
- **Math committees** – will edit and rewrite old items, and will write some new ones.
- **Science committees** – will write new sets of items associated with previously-reviewed and accepted stimuli, and will write new stand-alone items.

## Specifics – Reading

	Total Passages Available	Total Items Needed	Existing Passages	Existing Items to Edit	New Passages	New Items to Write
Grade 3	7	105	2	40	5	65
Grade 4	8	120	3	42	5	78
Grade 5	6	90	3	42	3	48
Grade 6	6	90	3	41	3	49
Grade 7	7	105	3	41	4	64
Grade 8	7	105	2	25	5	80
HS	17	255	4	55	13	200
TOTAL	58	870	20	286	38	584

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## Specifics - Math

	Total Items Needed	Existing Items to Edit	New Items to Write
Grade 3	60	31	29 +
Grade 4	60	34	26 +
Grade 5	60	33	27 +
Grade 6	60	38	22 +
Grade 7	60	49	11 +
Grade 8	60	30	30 +
HS	200	200	0 +
TOTAL	560	415	145 +

## Specifics – Science

	Total Items Needed	Existing Items to Edit	New Items to Write
Grade 4	<b>315</b>	0	315
Grade 8	<b>370</b>	0	370
HS	<b>420</b>	0	420
<b>TOTAL</b>	<b>1105</b>	0	1105



## Teamwork and Resources

- Facilitators will provide tailored instruction and issue assignments to guide the work.
- One person will be assigned to check for proper coding of the items.
- Refer to item specs, content limits, word lists, DOKs, and checklists.
- Write items on scratch paper; consult with partner.
- Record items on templates and electronically.
- Use laptops/LCDs to share items with the group.
- Revise, edit, and rewrite.
- Improve your item at intervals throughout the workshop; share its progression at the end.





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Security and Confidentiality

Questions?

Thank you

## **APPENDIX E**

### **Item Writing Workshop for Science**

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Following are the PowerPoint slides used during the AIMS Item Writing Workshop in April, 2007.



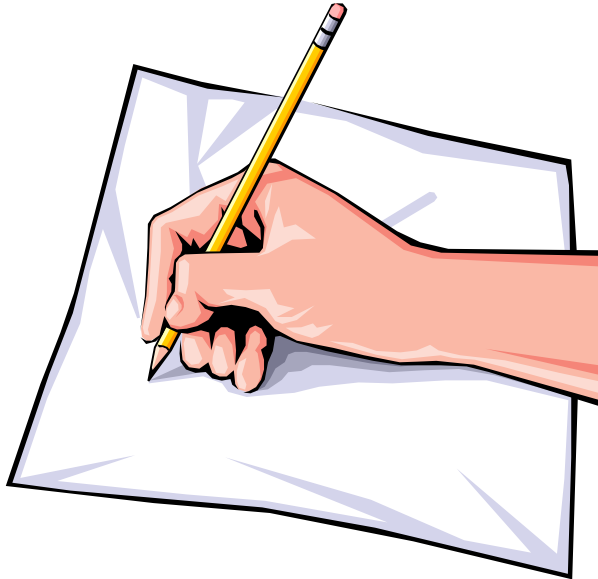
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# Item Writing Workshop

AIMS 2007–08

April 23–26, 2007

# An Item-Writing Activity



1

# Welcome or Welcome Back!

## Requirements:

- Content and assessment expertise
- Ability to be innovative
- Willingness to adhere to detailed item specifications and assignments
- Desire to be part of the AIMS development process

2

## CTB Reading Staff

**Tanya Johnson & Erika Faust**

Facilitators for Grades 3, 4, & 5

**Mark Rathjen & Gale Weir**

Facilitators for Grades 6, 7, & 8

**Kellie Crain**

Facilitator for HS

**Toni Gibbs**

Development Supervisor



# CTB Math Staff

## Lynn Fitch & Linda Chambers

Facilitators for Grades 3, 4, & 5

## Darren Schmidt

Facilitator for Grades 6, 7, & 8

## Mary Foster

Facilitator for HS

## Dan Dube

Development Supervisor





## CTB Support Staff

**Sachi Guzman**  
Style/Copy Editor

**Valerie Haff**  
Style/Copy Editor

**Michelle Paregian**  
Program Management/Item Authoring

**Angelica Gordon**  
Program Management/Item Authoring



# Gap Analysis and Targeted Assignments



- We analyzed the pool of available items.
- We calculated the portion of items in the item pool for each Strand/Concept.
- We considered the portion of items needed for each Strand/Concept per the blueprint.
- We calculated the difference between what we have and what we need.
- We created Reading passages to help address the gaps.
- We developed assignments to minimize the gaps.



## Goal = To create new field test items for Spring 2008

### Reading committees will . . .

- review previously written items associated with some unused passages
- augment them with additional items
- write approximately 15 new items for each new passage

### Math committees will . . .

- edit and rewrite some previously written items
- write new items

## Specifics—Reading

	Target		What We Have	
	Passages	Items	Passages	Items
Grade 3	6	90	6	19
Grade 4	6	90	7	20
Grade 5	6	90	7	24
Grade 6	6	90	7	10
Grade 7	6	90	6	10
Grade 8	6	90	7	21
HS	14	210	16	26
<b>TOTAL</b>	<b>50</b>	<b>750</b>	<b>56</b>	<b>130</b>
	<b>15 items per passage</b>			

## Specifics—Math

	Target	What We Have	New Items to Write - minimum
Grade 3	<b>60</b>	1	59
Grade 4	<b>60</b>	0	60
Grade 5	<b>60</b>	2	58
Grade 6	<b>60</b>	1	59
Grade 7	<b>60</b>	0	60
Grade 8	<b>60</b>	1	59
HS	<b>210</b>	80	130
<b>TOTAL</b>	<b>570</b>	<b>85</b>	<b>485</b>

# Teamwork

- Facilitators will issue assignments and provide tailored instruction to guide the work.
- In-room facilitators will offer ideas, assistance, and advice.
- One person should check for proper alignment of the items to POs.
- CTB staff will review the items each evening.
- Data entry support staff will enter each day's items into our system and will provide e-versions the next morning.
- Committees will discuss suggested edits each morning.
- Apply lessons learned to the day's assignment.



# Resources

- Assignment sheets
- Item specifications
- Content limits
- Word lists
- Checklists
- Templates
- Facilitators, Floaters, and Copy Editors

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Don't forget to improve your item at intervals throughout the workshop; share its progression at the end.

Security and Confidentiality  
2 Feedback Forms

Questions?

Thank you



**APPENDIX F**  
**AIMS Six Trait Analytic Writing Rubric**

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## AIMS Six Trait Analytic Writing Rubric–Official Scoring Guide

### IDEAS and CONTENT

<b>6</b>	<b>5</b>	<b>4</b>
<p>The writing is exceptionally clear, focused, and interesting. It holds the reader's attention throughout. Main ideas stand out and are developed by strong support and rich details suitable to audience and purpose. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• clarity, focus, and control.</li> <li>• main idea(s) that stand out.</li> <li>• supporting, relevant, carefully selected details; when appropriate, use of resources provides strong, accurate, credible support.</li> <li>• a thorough, balanced, in-depth explanation/exploration of the topic; the writing makes connections and shares insights.</li> <li>• content and selected details that is well suited to audience and purpose.</li> </ul>	<p>The writing is clear, focused, and interesting. It holds the reader's attention. Main ideas stand out and are developed by supporting details suitable to audience and purpose. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• clarity, focus, and control.</li> <li>• main idea(s) that stand out.</li> <li>• supporting, relevant, carefully selected details; when appropriate, use of resources provides strong, accurate, credible support.</li> <li>• a thorough, balanced explanation/exploration of the topic; the writing makes connections and shares insights.</li> <li>• content and selected details that is well suited to audience and purpose.</li> </ul>	<p>The writing is clear and focused. The reader can easily understand the main ideas. Support is present, although it may be limited or rather general. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• an easily identifiable purpose.</li> <li>• clear main idea(s).</li> <li>• supporting details that are relevant, but may be overly general or limited in places; when appropriate, resources are used to provide accurate support.</li> <li>• a topic that is explored/explained, although developmental details may occasionally be out of balance with the main idea(s); some connections and insights may be present.</li> <li>• content and selected details that is relevant, but perhaps not consistently well chosen for audience and purpose.</li> </ul>
<b>3</b>	<b>2</b>	<b>1</b>
<p>The reader can understand the main ideas, although they may be overly broad or simplistic, and the results may not be effective. Supporting detail is often limited, insubstantial, overly general, or occasionally slightly off-topic. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• an easily identifiable purpose and main idea(s).</li> <li>• predictable or overly-obvious main ideas or plot; conclusions or main points seem to echo observations heard elsewhere.</li> <li>• support that is attempted; but developmental details that are often limited in scope, uneven, somewhat off-topic, predictable, or overly general.</li> <li>• details that may not be well-grounded in credible resources; they may be based on clichés, stereotypes or questionable sources of information.</li> <li>• difficulties when moving from general observations to specifics.</li> </ul>	<p>Main ideas and purpose are somewhat unclear or development is attempted but minimal. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a purpose and main idea(s) that may require extensive inferences by the reader.</li> <li>• minimal development; insufficient details.</li> <li>• irrelevant details that clutter the text.</li> <li>• extensive repetition of detail.</li> </ul>	<p>The writing lacks a central idea or purpose. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• ideas that is extremely limited or simply unclear.</li> <li>• attempts at development that are minimal or non-existent; the paper is too short to demonstrate the development of an idea.</li> </ul>

**Ideas/Content:** This trait addresses the writer's theme along with the supporting details that develop and enrich that theme. Regardless of the type or purpose of writing, ideas should be clear, complete, and well-developed. One clear focus should be apparent, but development and details should be thorough, balanced, and well suited to audience and purpose.

## AIMS Six Trait Analytic Writing Rubric–Official Scoring Guide

### ORGANIZATION

<b>6</b>	<b>5</b>	<b>4</b>
<p>The organization enhances the central idea(s) and its development. The order and structure are compelling and move the reader through the text easily. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• effective, perhaps creative, sequencing; the organizational structure fits the topic, and the writing is easy to follow.</li> <li>• a strong, inviting beginning that draws the reader in and a strong satisfying sense of resolution or closure.</li> <li>• smooth, effective transitions among all elements (sentences, paragraphs, and ideas).</li> <li>• details that fit where placed.</li> </ul>	<p>The organization enhances the central idea(s) and its development. The order and structure are strong and move the reader through the text. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• effective sequencing; the organizational structure fits the topic, and the writing is easy to follow.</li> <li>• an inviting beginning that draws the reader in and a satisfying sense of resolution or closure.</li> <li>• smooth, effective transitions among all elements (sentences, paragraphs, and ideas).</li> <li>• details that fit where placed.</li> </ul>	<p>Organization is clear and coherent. Order and structure are present, but may seem formulaic. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• clear sequencing.</li> <li>• an organization that may be predictable.</li> <li>• a recognizable, developed beginning that may not be particularly inviting; a developed conclusion that may lack subtlety.</li> <li>• a body that is easy to follow with details that fit where placed.</li> <li>• transitions that may be stilted or formulaic.</li> <li>• organization which helps the reader, despite some weaknesses.</li> </ul>
<b>3</b>	<b>2</b>	<b>1</b>
<p>An attempt has been made to organize the writing; however, the overall structure is inconsistent or skeletal. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• attempts at sequencing, but the order or the relationship among ideas may occasionally be unclear.</li> <li>• a beginning and an ending which, although present, are either undeveloped or too obvious (e.g., "My topic is...", "These are the reasons that ...").</li> <li>• transitions that sometimes work. The same few transitional devices (e.g., coordinating conjunctions, numbering, etc.) may be overused.</li> <li>• a structure that is skeletal or too rigid.</li> <li>• placement of details that may not always be effective.</li> <li>• organization which lapses in some places, but helps the reader in others.</li> </ul>	<p>The writing lacks a clear organizational structure. An occasional organizational device is discernible; however, the writing is either difficult to follow and the reader has to reread substantial portions, or the piece is simply too short to demonstrate organizational skills. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• some attempts at sequencing, but the order or the relationship among ideas is frequently unclear.</li> <li>• a missing or extremely undeveloped beginning, body, and/or ending.</li> <li>• a lack of transitions, or when present, ineffective or overused.</li> <li>• a lack of an effective organizational structure.</li> <li>• details that seem to be randomly placed, leaving the reader frequently confused.</li> </ul>	<p>The writing lacks coherence; organization seems haphazard and disjointed. Even after rereading, the reader remains confused. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a lack of effective sequencing.</li> <li>• a failure to provide an identifiable beginning, body and/or ending.</li> <li>• a lack of transitions.</li> <li>• pacing that is consistently awkward; the reader feels either mired down in trivia or rushed along too rapidly.</li> <li>• a lack of organization which ultimately obscures or distorts the main point.</li> </ul>

**Organization:** This trait addresses the structure of a piece of writing including the thread of central meaning and the patterns that hold the piece together. Regardless of the type or purpose of writing, a well thought out order of ideas should be apparent. The structure should suit the topic, with a consciously planned opening and closing, each paragraph specific to one central idea, and transitions that tie the details

## AIMS Six Trait Analytic Writing Rubric–Official Scoring Guide

### VOICE

<b>6</b>	<b>5</b>	<b>4</b>
<p>The writer has chosen a voice appropriate for the topic, purpose, and audience. The writer seems deeply committed to the topic, and there is an exceptional sense of "writing to be read." The writing is expressive, engaging, or sincere. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• an effective level of closeness to or distance from the audience (e.g., a narrative should have a strong personal voice, while an expository piece may require extensive use of outside resources and a more academic voice; nevertheless, both should be engaging, lively, or interesting. Technical writing may require greater distance.)</li> <li>• an exceptionally strong sense of audience; the writer seems to be aware of the reader and of how to communicate the message most effectively. The reader may discern the writer behind the words and feel a sense of interaction.</li> <li>• a sense that the topic has come to life; when appropriate, the writing may show originality, liveliness, honesty, conviction, excitement, humor, or suspense.</li> </ul>	<p>The writer has chosen a voice appropriate for the topic, purpose, and audience. The writer seems committed to the topic, and there is a sense of "writing to be read." The writing is expressive, engaging, or sincere. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• an appropriate level of closeness to or distance from the audience (e.g., a narrative should have a strong personal voice while an expository piece may require extensive use of outside resources and a more academic voice; nevertheless, both should be engaging, lively or interesting. Technical writing may require greater distance.)</li> <li>• a strong sense of audience; the writer seems to be aware of the reader and of how to communicate the message most effectively. The reader may discern the writer behind the words and feel a sense of interaction.</li> <li>• a sense that the topic has come to life; when appropriate, the writing may show originality, liveliness, honesty, conviction, excitement, humor, or suspense.</li> </ul>	<p>A voice is present. The writer demonstrates commitment to the topic, and there may be a sense of "writing to be read." In places, the writing is expressive, engaging, or sincere. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a questionable or inconsistent level of closeness to or distance from the audience.</li> <li>• a sense of audience; the writer seems to be aware of the reader but has not consistently employed an appropriate voice. The reader may glimpse the writer behind the words and feels a sense of interaction in places.</li> <li>• liveliness, sincerity, or humor when appropriate; however, at times the writing may be either inappropriately casual or personal, or inappropriately formal and stiff.</li> </ul>
<b>3</b>	<b>2</b>	<b>1</b>
<p>A writer's commitment to the topic seems inconsistent. A sense of the writer may emerge at times; however, the voice is either inappropriately personal or inappropriately impersonal. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a limited sense of audience; the writer's awareness of the reader is unclear.</li> <li>• an occasional sense of the writer behind the words; however, the voice may shift or disappear a line or two later and the writing becomes somewhat mechanical.</li> <li>• a limited ability to shift to a more objective voice when necessary.</li> </ul>	<p>The writing provides little sense of involvement or commitment. There is no evidence that the writer has chosen a suitable voice. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• little engagement of the writer; the writing tends to be largely flat, lifeless, stiff, or mechanical.</li> <li>• a voice that is likely to be overly informal and personal.</li> <li>• a lack of audience awareness; there is little sense of "writing to be read."</li> <li>• little or no hint of the writer behind the words. There is rarely a sense of interaction between reader and writer.</li> </ul>	<p>The writing seems to lack a sense of involvement or commitment. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• no engagement of the writer; the writing is flat and lifeless.</li> <li>• a lack of audience awareness; there is no sense of "writing to be read."</li> <li>• no hint of the writer behind the words. There is no sense of interaction between writer and reader; the writing does not involve or engage the reader.</li> </ul> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><u>Voice:</u> The type of voice will vary according to the purpose and type of piece, but it should be appropriately formal or casual, distant or intimate, depending on the audience and purpose.</p> </div>

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### WORD CHOICE

<b>6</b>	<b>5</b>	<b>4</b>
<p>Words convey the intended message in an exceptionally interesting, precise, and natural way appropriate to audience and purpose. The writer employs a rich, broad range of words, which have been carefully chosen and thoughtfully placed for impact. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• accurate, strong, specific words; powerful words energize the writing.</li> <li>• fresh, original expression; slang, if used, seems purposeful and is effective.</li> <li>• vocabulary that is striking and varied, but that is natural and not overdone.</li> <li>• ordinary words used in an unusual way.</li> <li>• words that evoke strong images; figurative language may be used.</li> </ul>	<p>Words convey the intended message in an interesting, precise, and natural way appropriate to audience and purpose. The writer employs a broad range of words which have been carefully chosen and thoughtfully placed for impact. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• accurate, specific words; word choices energize the writing.</li> <li>• fresh, vivid expression; slang, if used, seems purposeful and is effective.</li> <li>• vocabulary that may be striking and varied, but that is natural and not overdone.</li> <li>• ordinary words used in an unusual way.</li> <li>• words that evoke clear images; figurative language may be used.</li> </ul>	<p>Words effectively convey the intended message. The writer employs a variety of words that are functional and appropriate to audience and purpose. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• words that work but do not particularly energize the writing.</li> <li>• expression that is functional; however, slang, if used, does not seem purposeful and is not particularly effective.</li> <li>• attempts at colorful language that may occasionally seem overdone.</li> <li>• occasional overuse of technical language or jargon.</li> <li>• rare experiments with language; however, the writing may have some fine moments and generally avoids clichés.</li> </ul>
<b>3</b>	<b>2</b>	<b>1</b>
<p>Language is quite ordinary, lacking interest, precision and variety, or may be inappropriate to audience and purpose in places. The writer does not employ a variety of words, producing a sort of "generic" paper filled with familiar words and phrases. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• words that work, but that rarely capture the reader's interest.</li> <li>• expression that seems mundane and general; slang, if used, does not seem purposeful and is not effective.</li> <li>• attempts at colorful language that seem overdone or forced.</li> <li>• words that are accurate for the most part, although misused words may occasionally appear, technical language or jargon may be overused or inappropriately used.</li> <li>• reliance on clichés and overused expressions.</li> </ul>	<p>Language is monotonous and/or misused, detracting from the meaning and impact. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• words that are colorless, flat or imprecise.</li> <li>• monotonous repetition or overwhelming reliance on worn expressions that repeatedly distract from the message.</li> <li>• images that are fuzzy or absent altogether.</li> </ul>	<p>The writing shows an extremely limited vocabulary or is so filled with misused or words that the meaning is obscured. Only the most general kind of message is communicated because of vague or imprecise language. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• general, vague words that fail to communicate.</li> <li>• an extremely limited range of words.</li> <li>• words that simply do not fit the text; they seem imprecise, inadequate, or just plain wrong.</li> </ul>

**Word Choice:** This trait reflects the writer's use of specific words and phrases to convey the intended message in an interesting, precise, and natural way appropriate to audience and purpose.

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### SENTENCE FLUENCY

<b>6</b>	<b>5</b>	<b>4</b>
<p>The writing has an effective flow and rhythm. Sentences show a high degree of craftsmanship, with consistently strong and varied structure that makes expressive oral reading easy and enjoyable. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a natural, fluent sound; it glides along with one sentence flowing effortlessly into the next.</li> <li>• extensive variation in sentence structure, length, and beginnings that add interest to the text.</li> <li>• sentence structure that enhances meaning by drawing attention to key ideas or reinforcing relationships among ideas.</li> <li>• varied sentence patterns that create an effective combination of power and grace.</li> <li>• strong control over sentence structure; fragments, if used at all, work well.</li> <li>• stylistic control; dialogue, if used, sounds natural.</li> </ul>	<p>The writing has an easy flow and rhythm. Sentences are carefully crafted, with strong and varied structure that makes expressive oral reading easy and enjoyable. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a natural, fluent sound; it glides along with one sentence flowing into the next.</li> <li>• variation in sentence structure, length, and beginnings that add interest to the text.</li> <li>• sentence structure that enhances meaning.</li> <li>• control over sentence structure; fragments, if used at all, work well.</li> <li>• stylistic control; dialogue, if used, sounds natural.</li> </ul>	<p>The writing flows; however, connections between phrases or sentences may be less than fluid. Sentence patterns are somewhat varied, contributing to ease in oral reading. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• a natural sound; the reader can move easily through the piece, although it may lack a certain rhythm and grace.</li> <li>• some repeated patterns of sentence structure, length, and beginnings that may detract somewhat from overall impact.</li> <li>• strong control over simple sentence structures, but variable control over more complex sentences; fragments, if present, are usually effective.</li> <li>• occasional lapses in stylistic control; dialogue, if used, sounds natural for the most part, but may at times sound stilted or unnatural.</li> </ul>
<b>3</b>	<b>2</b>	<b>1</b>
<p>The writing tends to be mechanical rather than fluid. Occasional awkward constructions may force the reader to slow down or reread. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• some passages that invite fluid oral reading; however, others do not.</li> <li>• some variety in sentences structure, length, and beginnings, although the writer falls into repetitive sentence patterns.</li> <li>• good control over simple sentence structures, but little control over more complex sentences; fragments, if present, may not be effective.</li> <li>• sentences which, although functional, lack energy.</li> <li>• lapses in stylistic control; dialogue, if used, may sound stilted or unnatural.</li> </ul>	<p>The writing tends to be either choppy or rambling. Awkward constructions often force the reader to slow down or reread. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• significant portions of the text that is difficult to follow or read aloud.</li> <li>• sentence patterns that are monotonous (e.g., subject-verb or subject-verb-object).</li> <li>• a significant number of awkward, choppy, or rambling constructions.</li> </ul>	<p>The writing is difficult to follow or to read aloud. Sentences tend to be incomplete, rambling, or very awkward. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• text that does not invite—and may not even permit—smooth oral reading.</li> <li>• confusing word order that is often jarring and irregular.</li> <li>• sentence structure that frequently obscures meaning.</li> <li>• sentences that is disjointed, confusing, or rambling.</li> </ul>

**Sentence Fluency:** This trait addresses the rhythm and flow of language. Sentence structure should be strong and varied.

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### CONVENTIONS

<b>6</b>	<b>5</b>	<b>4</b>
<p>The writing demonstrates exceptionally strong control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage) and uses them effectively to enhance communication. Errors are so few and so minor that the reader can easily skim right over them unless specifically searching for them. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• strong control of conventions; manipulation of conventions may occur for stylistic effect.</li> <li>• strong, effective use of punctuation that guides the reader through the text.</li> <li>• correct spelling, even of more difficult words.</li> <li>• paragraph breaks that reinforce the organizational structure.</li> <li>• correct grammar and usage that contribute to clarity and style.</li> <li>• skill in using a wide range of conventions in a sufficiently long and complex piece.</li> <li>• little or no need for editing.</li> </ul>	<p>The writing demonstrates strong control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage) and uses them effectively to enhance communication. Errors are so few and so minor that they do not impede readability. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• strong control of conventions.</li> <li>• effective use of punctuation that guides the reader through the text.</li> <li>• correct spelling, even of more difficult words.</li> <li>• paragraph breaks that reinforce the organizational structure.</li> <li>• correct capitalization; errors, if any, are minor.</li> <li>• correct grammar and usage that contribute to clarity and style.</li> <li>• skill in using a wide range of conventions in a sufficiently long and complex piece.</li> <li>• little need for editing.</li> </ul>	<p>The writing demonstrates control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage). Minor errors, while perhaps noticeable, do not impede readability. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• control over conventions used, although a wide range is not demonstrated.</li> <li>• correct end-of-sentence punctuation, internal punctuation may sometimes be incorrect.</li> <li>• spelling that is usually correct, especially on common words.</li> <li>• basically sound paragraph breaks that reinforce the organizational structure.</li> <li>• correct capitalization; errors, if any, are minor.</li> <li>• occasional lapses in correct grammar and usage; problems are not severe enough to distort meaning or confuse the reader.</li> <li>• moderate need for editing.</li> </ul>
<b>3</b>	<b>2</b>	<b>1</b>
<p>The writing demonstrates limited control of standard writing conventions (e.g., punctuation, spelling, capitalization, paragraph breaks, grammar and usage). Errors begin to impede readability. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• some control over basic conventions; the text may be too simple to reveal mastery.</li> <li>• end-of-sentence punctuation that is usually correct; however, internal punctuation contains frequent errors.</li> <li>• spelling errors that distract the reader; misspelling of common words occurs.</li> <li>• paragraphs that sometimes run together or begin at ineffective places.</li> <li>• capitalization errors.</li> <li>• errors in grammar and usage that do not block meaning but do distract the reader.</li> <li>• significant need for editing.</li> </ul>	<p>The writing demonstrates little control of standard writing conventions. Frequent, significant errors impede readability. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• little control over basic conventions.</li> <li>• many end-of-sentence punctuation errors; internal punctuation contains frequent errors.</li> <li>• spelling errors that frequently distract the reader; misspelling of common words often occurs.</li> <li>• paragraphs that often run together or begin in ineffective places.</li> <li>• capitalization that is inconsistent or often incorrect.</li> <li>• errors in grammar and usage that interfere with readability and meaning.</li> <li>• substantial need for editing.</li> </ul> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><u>Conventions</u>: This trait addresses the mechanics of writing, spelling, capitalization, punctuation, and paragraph breaks. It can also include proper format.</p> </div>	<p>Numerous errors in usage, spelling, capitalization, and punctuation repeatedly distract the reader and make the text difficult to read. In fact, the severity and frequency of errors are so overwhelming that the reader finds it difficult to focus on the message and must reread for meaning. The writing is characterized by</p> <ul style="list-style-type: none"> <li>• very limited skill in using conventions.</li> <li>• basic punctuation (including end-of-sentence punctuation) that tends to be omitted, haphazard, or incorrect.</li> <li>• frequent spelling errors that significantly impair readability.</li> <li>• paragraph breaks that may be highly irregular or so frequent (every sentence) that they bear no relation to the organization of the text.</li> <li>• capitalization that appears to be random.</li> <li>• a need for extensive editing.</li> </ul>