

# ILLINOIS ARMY NATIONAL GUARD

Sparta Training Area  
1803 Hillcrest Drive  
Sparta, IL 62286

## 108 Land Navigation Course

Ph. (618) 443-9618

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SPARTA TRAINING AREA  
ADVANCED LAND NAVIGATION COURSE  
108 COURSE

GUIDANCE FOR COURSE OIC/TEST ADMINISTRATOR

- I. Materials needed for Intermediate Land Navigation Course:
- a. \_\_\_\_\_ STA 1:25,000 scale map
  - b. \_\_\_\_\_ lensatic compass
  - c. \_\_\_\_\_ protractors
  - d. \_\_\_\_\_ pencils
  - e. \_\_\_\_\_ pre-made test sheets
  - f. \_\_\_\_\_ answer sheet matrixes

- II. Instructions for conducting the advanced land navigation course:

There are several pre-made test sheets included in the course binder.

This course is designed to run several relays of students through in a minimal amount of time.

There are also answer sheet matrixes included for easy grading. To use them, simply determine which test sheet the student is using, based on starting point 1-5, locate the test answer sheet, and compare the answers to the students test sheet.

It is also important that students have an opportunity to determine their pace counts prior to beginning the course.

Finally, the students should be briefed on, or have the opportunity to read, the contents of the student instruction sheet provided.

SPARTA TRAINING AREA  
ADVANCED LAND NAVIGATION COURSE  
108 COURSE

STUDENT INSTRUCTION SHEET

COURSE REQUIREMENTS:

**TASK:** Navigate over hilly grassland, wooded areas and waterways between points while dismounted.

**CONDITION:** Given a 1:25,000 scale topographic map of Sparta Training Area, compass, protractor, pencil, and either: (1) a ten digit grid coordinate of the next point or (2) a distance and azimuth to the next point.

**STANDARD:** Correctly determine the alphanumeric identification code of all points to which you are directed.

COURSE DESCRIPTION:

This is a five-leg course over hilly grassland, wooded areas and waterways. Course requires route selection, boxing techniques and adjustment to pace count for varied terrain.

COURSE POINT IDENTIFICATION:

Start points are identified as SP1 through SP5. All other course stakes are identified with an alphanumeric designation containing one letter and one number. Identifications are posted on 1' by 1' signs painted half white and half international orange and are between 5' and 7' above ground level.

PACE COUNT:

An individual soldiers pace count may be identified utilizing the start points. These stakes are each 50 meters apart.

SAFETY:

The panic azimuth is 180 degrees. Following this azimuth will lead you to a gravel road or body of water. If you hit a body of water travel 270 degrees and 180 degrees around water until you hit the gravel road. If not comfortable with your present location once on the gravel road, remain in place to be picked up by your unit or range control personnel.

Due to the somewhat extreme terrain in portions of this course it is recommended that less experienced soldiers utilize this course as part of a buddy team. This recommendation is especially important during hours of darkness.

INJURIES:

If you are injured and unable to follow the panic azimuth to the road, call for help. If you come upon someone who is injured, or respond to someone's call for assistance, render required first aid within your capabilities and knowledge. If you are the only person with the injured person, try calling for assistance. If a second person arrives, one of you should stay with the injured person while the other person follows the panic azimuth and gets help. If no one responds within a reasonable period of time, you must judge whether to wait with the person or to get help. If you leave **REMEMBER THE INJURED PERSON'S LOCATION** and mark if necessary so you can find it again. **DO NOT IGNORE SOMEONE'S CALL FOR ASSISTANCE** – the safety of your fellow soldiers is more important than completing the course.

#### PREMATURE TERMINATION:

If for any reason it is determined that conditions are no longer safe for the conduct of the land navigation course, a horn will sound three times in succession. IMMEDIATELY follow the panic azimuth to the road and wait for further instructions.

#### SAFETY CONT...

#### TEST CONDUCT:

Determine your pace count.

You should be able to perform to standard all skill level 1-4 navigation tasks listed in the Soldier's Manual of Common Tasks.

You will be provided with a STA 1:25,000 scale map, a compass, protractor, pencil, and test sheet. The test sheet will direct you from one course point to the next by giving you either a ten digit grid coordinate (day), or distance and azimuth (night). You will be asked to record the identification number of the point you have been directed to. Record this information in the appropriate space on the test sheet.

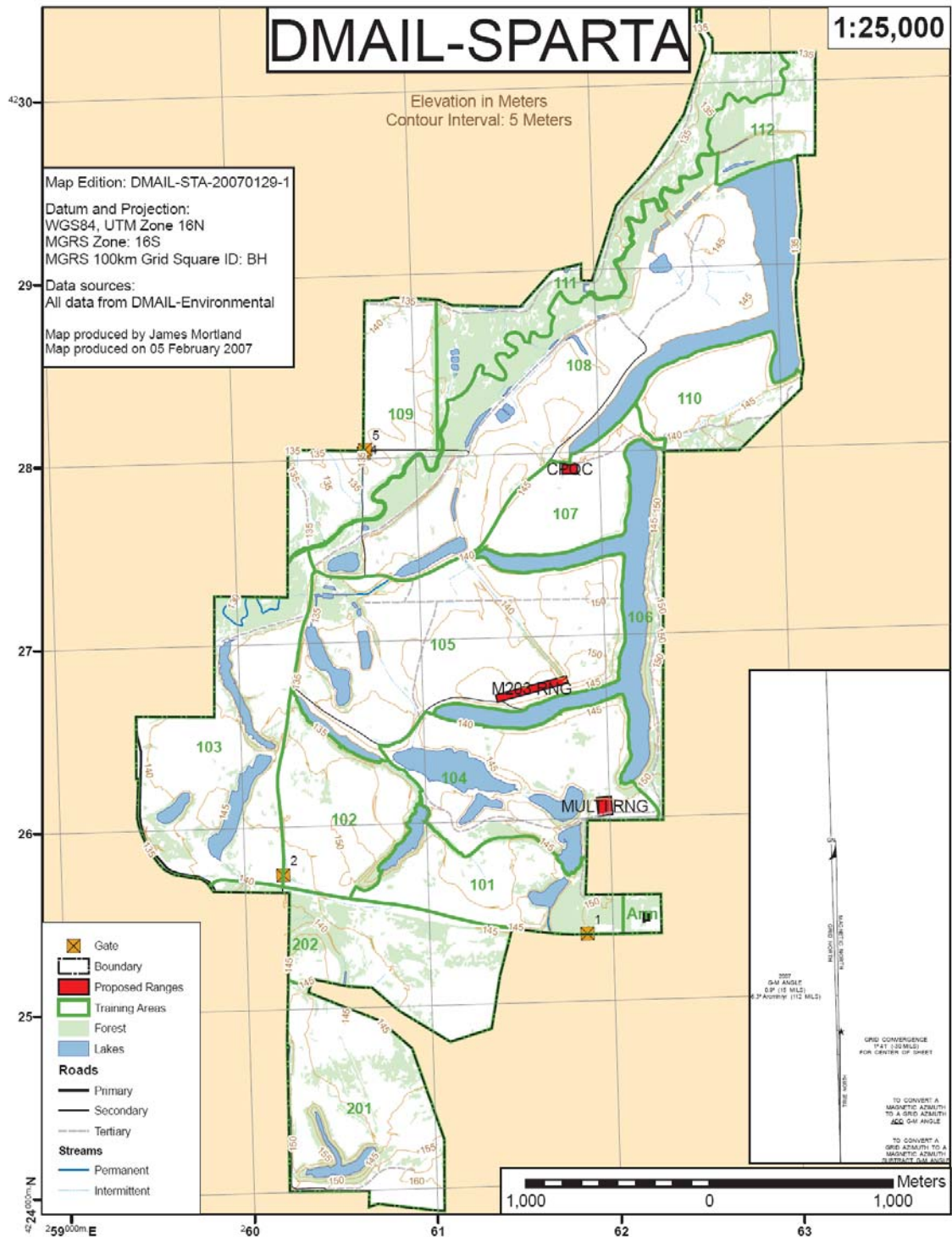
Once you have reached and recorded the final point, return to assembly area within allotted time and turn in test sheet for grading.

You will have \_\_\_\_\_ minutes (hours) to complete the course. At the end of this time, a horn will sound three times. Immediately return to the road along the panic azimuth and make your way to the assembly area.

Do you know the panic azimuth?

Do you have any questions?

# Sparta Training Area 1:25,000 General Map



# 108 Land Navigation Course Stake Locations

## Legend

### 108 Land Nav Points

#### TYPE

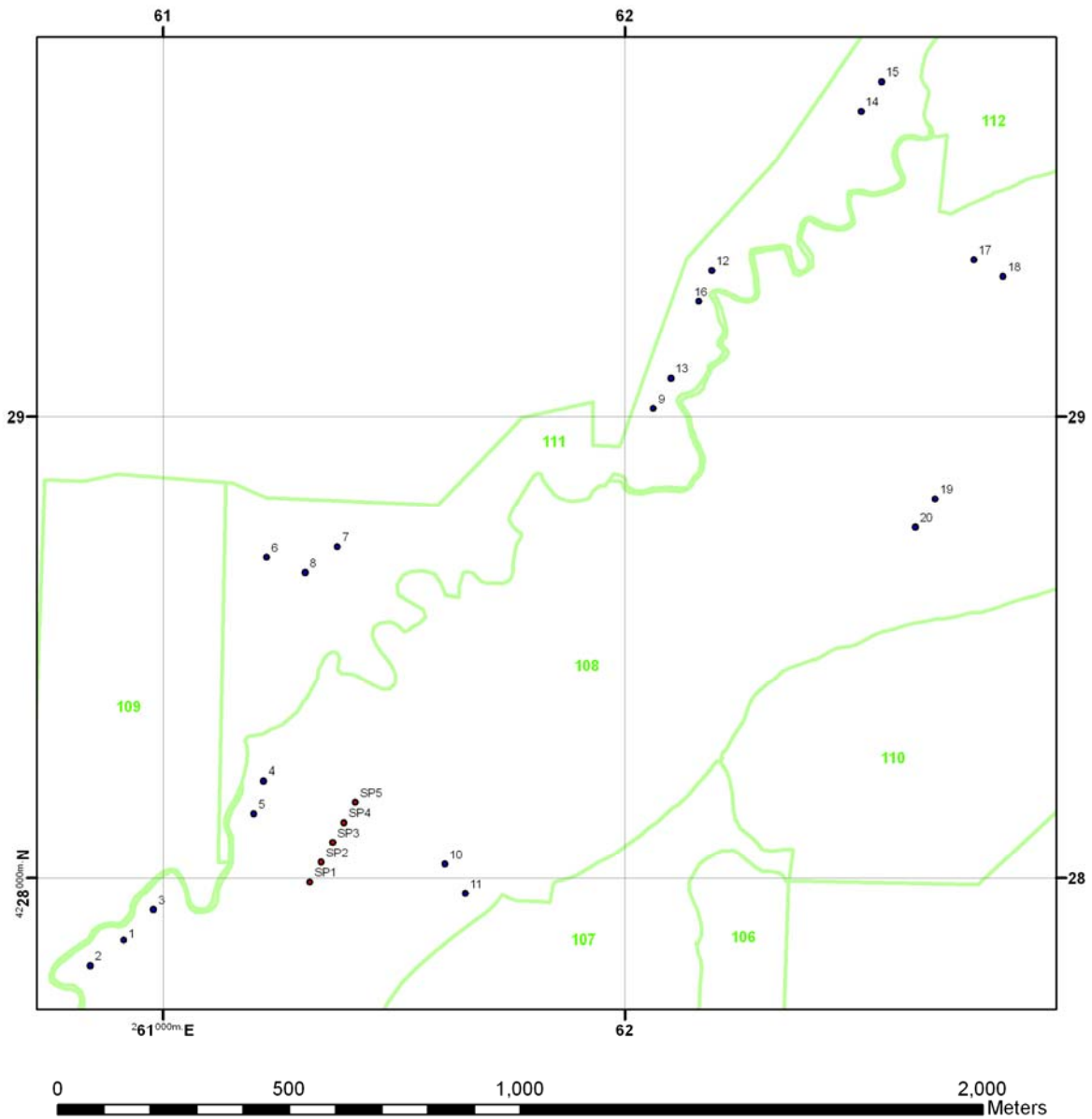
- START POINTS
- OTHER POINTS

## 108 Land Nav - Sign Locations



Datum and Projection: WGS84, UTM Zone 16N  
100km GSI: BH  
All data from DMAIL-Environmental, except

Map created by James Mortland  
Map created on 18 DEC 07



**SCORESHEET FOR 108 DAY LAND NAVIGATION COURSE  
SPARTA TRAINING AREA**

**SOLDIERS' NAME(S):** \_\_\_\_\_ & \_\_\_\_\_

**UNIT:** \_\_\_\_\_ **DATE TAKEN:** \_\_\_\_\_

**START TIME:** \_\_\_\_\_ **FINISH TIME:** \_\_\_\_\_

**TO MEET STANDARD, YOU MUST CORRECTLY IDENTIFY 4 OF 5 POINTS  
IN LESS THAN 3 HOURS.**

**NOTE: WHEN DETERMINING AZIMUTHS, REMEMBER TO CONVERT  
YOUR AZIMUTH USING YOUR GRID-AZIMUTH (G-M) ANGLE. [ To convert a  
grid azimuth to a magnetic azimuth, subtract the G-M angle (0.9 degrees)]**

**YOU ARE AT BH 61317 27991 (SP1).**

1. Go to BH 61223 28695 to find your first point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

2. Go to BH 62061 29017 to find your second point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

3. Go to BH 62510 29665 to find your third point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

4. Go to BH 62627 28760 to find your fourth point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

5. Go to BH 61653 27966 to find your fourth point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

Return to scoring station within designated time

**SOLDIER(S) CORRECTLY IDENTIFIED \_\_\_\_\_ OF 5 POINTS  
IN \_\_\_\_\_ HOUR(S) \_\_\_\_\_ MINUTES.**

**SCORE AS: GO NO GO (circle one)**

**REVIEWED AND GRADED BY:** \_\_\_\_\_

**SCORESHEET FOR 108 DAY LAND NAVIGATION COURSE  
SPARTA TRAINING AREA**

**SOLDIERS' NAME(S):** \_\_\_\_\_ & \_\_\_\_\_

**UNIT:** \_\_\_\_\_ **DATE TAKEN:** \_\_\_\_\_

**START TIME:** \_\_\_\_\_ **FINISH TIME:** \_\_\_\_\_

**TO MEET STANDARD, YOU MUST CORRECTLY IDENTIFY 4 OF 5 POINTS  
IN LESS THAN 3 HOURS.**

**NOTE: WHEN DETERMINING AZIMUTHS, REMEMBER TO CONVERT  
YOUR AZIMUTH USING YOUR GRID-AZIMUTH (G-M) ANGLE. [ To convert a  
grid azimuth to a magnetic azimuth, subtract the G-M angle (0.9 degrees)]**

**YOU ARE AT BH 61342 28034 (SP2).**

1. Go to BH 60841 27810 to find your first point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

2. Go to BH 61307 28662 to find your second point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

3. Go to BH 62098 29084 to find your third point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

4. Go to BH 62554 29729 to find your fourth point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

5. Go to BH 62671 28823 to find your fourth point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

Return to scoring station within designated time

**SOLDIER(S) CORRECTLY IDENTIFIED \_\_\_\_\_ OF 5 POINTS  
IN \_\_\_\_\_ HOUR(S) \_\_\_\_\_ MINUTES.**

**SCORE AS: GO NO GO (circle one)**

**REVIEWED AND GRADED BY:** \_\_\_\_\_



**SCORESHEET FOR 108 DAY LAND NAVIGATION COURSE  
SPARTA TRAINING AREA**

**SOLDIERS' NAME(S):** \_\_\_\_\_ & \_\_\_\_\_

**UNIT:** \_\_\_\_\_ **DATE TAKEN:** \_\_\_\_\_

**START TIME:** \_\_\_\_\_ **FINISH TIME:** \_\_\_\_\_

**TO MEET STANDARD, YOU MUST CORRECTLY IDENTIFY 4 OF 5 POINTS  
IN LESS THAN 3 HOURS.**

**NOTE: WHEN DETERMINING AZIMUTHS, REMEMBER TO CONVERT  
YOUR AZIMUTH USING YOUR GRID-AZIMUTH (G-M) ANGLE. [ To convert a  
grid azimuth to a magnetic azimuth, subtract the G-M angle (0.9 degrees)]**

**YOU ARE AT BH 61367 28078 (SP3).**

1. Go to BH 60914 27864 to find your first point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

2. Go to BH 61377 28718 to find your second point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

3. Go to BH 62159 29251 to find your third point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

4. Go to BH 62817 29306 to find your fourth point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

5. Go to BH 61609 28031 to find your fourth point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

Return to scoring station within designated time

**SOLDIER(S) CORRECTLY IDENTIFIED \_\_\_\_\_ OF 5 POINTS  
IN \_\_\_\_\_ HOUR(S) \_\_\_\_\_ MINUTES.**

**SCORE AS: GO NO GO (circle one)**

**REVIEWED AND GRADED BY:** \_\_\_\_\_

**SCORESHEET FOR 108 DAY LAND NAVIGATION COURSE  
SPARTA TRAINING AREA**

**SOLDIERS' NAME(S):** \_\_\_\_\_ & \_\_\_\_\_

**UNIT:** \_\_\_\_\_ **DATE TAKEN:** \_\_\_\_\_

**START TIME:** \_\_\_\_\_ **FINISH TIME:** \_\_\_\_\_

**TO MEET STANDARD, YOU MUST CORRECTLY IDENTIFY 4 OF 5 POINTS  
IN LESS THAN 3 HOURS.**

**NOTE: WHEN DETERMINING AZIMUTHS, REMEMBER TO CONVERT  
YOUR AZIMUTH USING YOUR GRID-AZIMUTH (G-M) ANGLE. [ To convert a  
grid azimuth to a magnetic azimuth, subtract the G-M angle (0.9 degrees)]**

**YOU ARE AT BH 61391 28121 (SP4).**

1. Go to BH 60978 27931 to find your first point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

2. Go to BH 61307 28662 to find your second point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

3. Go to BH 62186 29319 to find your third point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

4. Go to BH 62755 29342 to find your fourth point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

5. Go to BH 61217 28212 to find your fourth point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

Return to scoring station within designated time

**SOLDIERS CORRECTLY IDENTIFIED \_\_\_\_\_ OF 5 POINTS  
IN \_\_\_\_\_ HOUR(S) \_\_\_\_\_ MINUTES.**

**SCORE AS: GO NO GO (circle one)**

**REVIEWED AND GRADED BY:** \_\_\_\_\_

**SCORESHEET FOR 108 DAY LAND NAVIGATION COURSE  
SPARTA TRAINING AREA**

**SOLDIERS' NAME(S):** \_\_\_\_\_ & \_\_\_\_\_

**UNIT:** \_\_\_\_\_ **DATE TAKEN:** \_\_\_\_\_

**START TIME:** \_\_\_\_\_ **FINISH TIME:** \_\_\_\_\_

**TO MEET STANDARD, YOU MUST CORRECTLY IDENTIFY 4 OF 5 POINTS  
IN LESS THAN 3 HOURS.**

**NOTE: WHEN DETERMINING AZIMUTHS, REMEMBER TO CONVERT  
YOUR AZIMUTH USING YOUR GRID-AZIMUTH (G-M) ANGLE. [ To convert a  
grid azimuth to a magnetic azimuth, subtract the G-M angle (0.9 degrees)]**

**YOU ARE AT BH 61416 28165 (SP5).**

1. Go to BH 61307 28662 to find your first point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

2. Go to BH 62098 29084 to find your second point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

3. Go to BH 62554 29729 to find your third point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

4. Go to BH 62627 28760 to find your fourth point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

5. Go to BH 61196 28140 to find your fourth point.  
\_\_\_\_\_ Meters \_\_\_\_\_ degrees (grid) \_\_\_\_\_ degrees (mag)

Record marking on point here \_\_\_\_\_

Return to scoring station within designated time

**SOLDIER(S) CORRECTLY IDENTIFIED \_\_\_\_\_ OF 5 POINTS  
IN \_\_\_\_\_ HOUR(S) \_\_\_\_\_ MINUTES.**

**SCORE AS: GO NO GO (circle one)**

**REVIEWED AND GRADED BY:** \_\_\_\_\_

**SCORESHEET FOR 108 NIGHT LAND NAVIGATION COURSE  
SPARTA TRAINING AREA**

**SOLDIERS' NAME(S):** \_\_\_\_\_ **&** \_\_\_\_\_

**UNIT:** \_\_\_\_\_ **DATE TAKEN:** \_\_\_\_\_

**START TIME:** \_\_\_\_\_ **FINISH TIME:** \_\_\_\_\_

**TO MEET STANDARD, YOU MUST CORRECTLY IDENTIFY 3 OF 4 POINTS  
IN LESS THAN 3 HOURS.**

**YOU ARE AT BH 61317 27991 (SP1).**

1. Move from your present location  
710 meters 351 degrees (mag)

Record marking on point here \_\_\_\_\_

2. Move from your present location  
897 meters 68 degrees (mag)

Record marking on point here \_\_\_\_\_

3. Move from your present location  
788 meters 34 degrees (mag)

Record marking on point here \_\_\_\_\_

4. Move from your present location  
912 meters 172 degrees (mag)

Record marking on point here \_\_\_\_\_

Return to scoring station within designated time

**SOLDIER(S) CORRECTLY IDENTIFIED \_\_\_\_\_ OF 4 POINTS  
IN \_\_\_\_\_ HOUR(S) \_\_\_\_\_ MINUTES.**

**SCORE AS: GO NO GO (circle one)**

**REVIEWED AND GRADED BY:** \_\_\_\_\_

**SCORESHEET FOR 108 NIGHT LAND NAVIGATION COURSE  
SPARTA TRAINING AREA**

**SOLDIERS' NAME(S):** \_\_\_\_\_ **&** \_\_\_\_\_

**UNIT:** \_\_\_\_\_ **DATE TAKEN:** \_\_\_\_\_

**START TIME:** \_\_\_\_\_ **FINISH TIME:** \_\_\_\_\_

**TO MEET STANDARD, YOU MUST CORRECTLY IDENTIFY 3 OF 4 POINTS  
IN LESS THAN 3 HOURS.**

**YOU ARE AT BH 61342 28034 (SP2).**

1. Move from your present location  
549 meters 245 degrees (mag)

Record marking on point here \_\_\_\_\_

2. Move from your present location  
971 meters 28 degrees (mag)

Record marking on point here \_\_\_\_\_

3. Move from your present location  
897 meters 61 degrees (mag)

Record marking on point here \_\_\_\_\_

4. Move from your present location  
790 meters 34 degrees (mag)

Record marking on point here \_\_\_\_\_

Return to scoring station within designated time

**SOLDIER(S) CORRECTLY IDENTIFIED \_\_\_\_\_ OF 4 POINTS  
IN \_\_\_\_\_ HOUR(S) \_\_\_\_\_ MINUTES.**

**SCORE AS: GO NO GO (circle one)**

**REVIEWED AND GRADED BY:** \_\_\_\_\_

**SCORESHEET FOR 108 NIGHT LAND NAVIGATION COURSE  
SPARTA TRAINING AREA**

**SOLDIERS' NAME(S):** \_\_\_\_\_ **&** \_\_\_\_\_

**UNIT:** \_\_\_\_\_ **DATE TAKEN:** \_\_\_\_\_

**START TIME:** \_\_\_\_\_ **FINISH TIME:** \_\_\_\_\_

**TO MEET STANDARD, YOU MUST CORRECTLY IDENTIFY 3 OF 4 POINTS  
IN LESS THAN 3 HOURS.**

**YOU ARE AT BH 61367 28078 (SP3).**

1. Move from your present location  
500 meters 244 degrees (mag)

Record marking on point here \_\_\_\_\_

2. Move from your present location  
971 meters 28 degrees (mag)

Record marking on point here \_\_\_\_\_

3. Move from your present location  
947 meters 55 degrees (mag)

Record marking on point here \_\_\_\_\_

4. Move from your present location  
660 meters 84 degrees (mag)

Record marking on point here \_\_\_\_\_

Return to scoring station within designated time

**SOLDIER(S) CORRECTLY IDENTIFIED \_\_\_\_\_ OF 4 POINTS  
IN \_\_\_\_\_ HOUR(S) \_\_\_\_\_ MINUTES.**

**SCORE AS: GO NO GO (circle one)**

**REVIEWED AND GRADED BY:** \_\_\_\_\_

**SCORESHEET FOR 108 NIGHT LAND NAVIGATION COURSE  
SPARTA TRAINING AREA**

**SOLDIERS' NAME(S):** \_\_\_\_\_ **&** \_\_\_\_\_

**UNIT:** \_\_\_\_\_ **DATE TAKEN:** \_\_\_\_\_

**START TIME:** \_\_\_\_\_ **FINISH TIME:** \_\_\_\_\_

**TO MEET STANDARD, YOU MUST CORRECTLY IDENTIFY 3 OF 4 POINTS  
IN LESS THAN 3 HOURS.**

**YOU ARE AT BH 61391 28121 (SP4).**

1. Move from your present location  
455 meters 244 degrees (mag)

Record marking on point here \_\_\_\_\_

2. Move from your present location  
801 meters 23 degrees (mag)

Record marking on point here \_\_\_\_\_

3. Move from your present location  
1098 meters 52 degrees (mag)

Record marking on point here \_\_\_\_\_

4. Move from your present location  
569 meters 87 degrees (mag)

Record marking on point here \_\_\_\_\_

Return to scoring station within designated time

**SOLDIER(S) CORRECTLY IDENTIFIED \_\_\_\_\_ OF 4 POINTS  
IN \_\_\_\_\_ HOUR(S) \_\_\_\_\_ MINUTES.**

**SCORE AS: GO NO GO (circle one)**

**REVIEWED AND GRADED BY:** \_\_\_\_\_

**SCORESHEET FOR 108 NIGHT LAND NAVIGATION COURSE  
SPARTA TRAINING AREA**

**SOLDIERS' NAME(S):** \_\_\_\_\_ **&** \_\_\_\_\_

**UNIT:** \_\_\_\_\_ **DATE TAKEN:** \_\_\_\_\_

**START TIME:** \_\_\_\_\_ **FINISH TIME:** \_\_\_\_\_

**TO MEET STANDARD, YOU MUST CORRECTLY IDENTIFY 3 OF 4 POINTS  
IN LESS THAN 3 HOURS.**

**YOU ARE AT BH 61416 28165 (SP5).**

1. Move from your present location  
509 meters 347 degrees (mag)

Record marking on point here \_\_\_\_\_

2. Move from your present location  
897 meters 61 degrees (mag)

Record marking on point here \_\_\_\_\_

3. Move from your present location  
790 meters 34 degrees (mag)

Record marking on point here \_\_\_\_\_

4. Move from your present location  
971 meters 175 degrees (mag)

Record marking on point here \_\_\_\_\_

Return to scoring station within designated time

**SOLDIER(S) CORRECTLY IDENTIFIED \_\_\_\_\_ OF 4 POINTS  
IN \_\_\_\_\_ HOUR(S) \_\_\_\_\_ MINUTES.**

**SCORE AS: GO NO GO (circle one)**

**REVIEWED AND GRADED BY:** \_\_\_\_\_



**ANSWER SHEET**  
**108 DAY LAND NAVIGATION COURSE**

**SP1: (1) R5**  
**(2) J7**  
**(3) A8**  
**(4) M4**  
**(5) B7**

**SP2: (1) V3**  
**(2) T1**  
**(3) H8**  
**(4) F7**  
**(5) K7**

**SP3: (1) P6**  
**(2) G6**  
**(3) Q6**  
**(4) C3**  
**(5) L9**

**SP4: (1) N7**  
**(2) T1**  
**(3) D8**  
**(4) U9**  
**(5) E5**

**SP5: (1) T1**  
**(2) H8**  
**(3) F7**  
**(4) M4**  
**(5) W4**

**ANSWER SHEET**  
**108 NIGHT LAND NAVIGATION COURSE**

**SP1: (1) R5**  
**(2) J7**  
**(3) A8**  
**(4) M4**

**SP2: (1) V3**  
**(2) T1**  
**(3) H8**  
**(4) F7**

**SP3: (1) P6**  
**(2) G6**  
**(3) Q6**  
**(4) C3**

**SP4: (1) N7**  
**(2) T1**  
**(3) D8**  
**(4) U9**

**SP5: (1) T1**  
**(2) H8**  
**(3) F7**  
**(4) M4**

# ANSWER SHEET

## ALL POINTS WITH IDENTIFICATION NUMBERS

### 108 Land Nav - Sign Codes



#### Legend

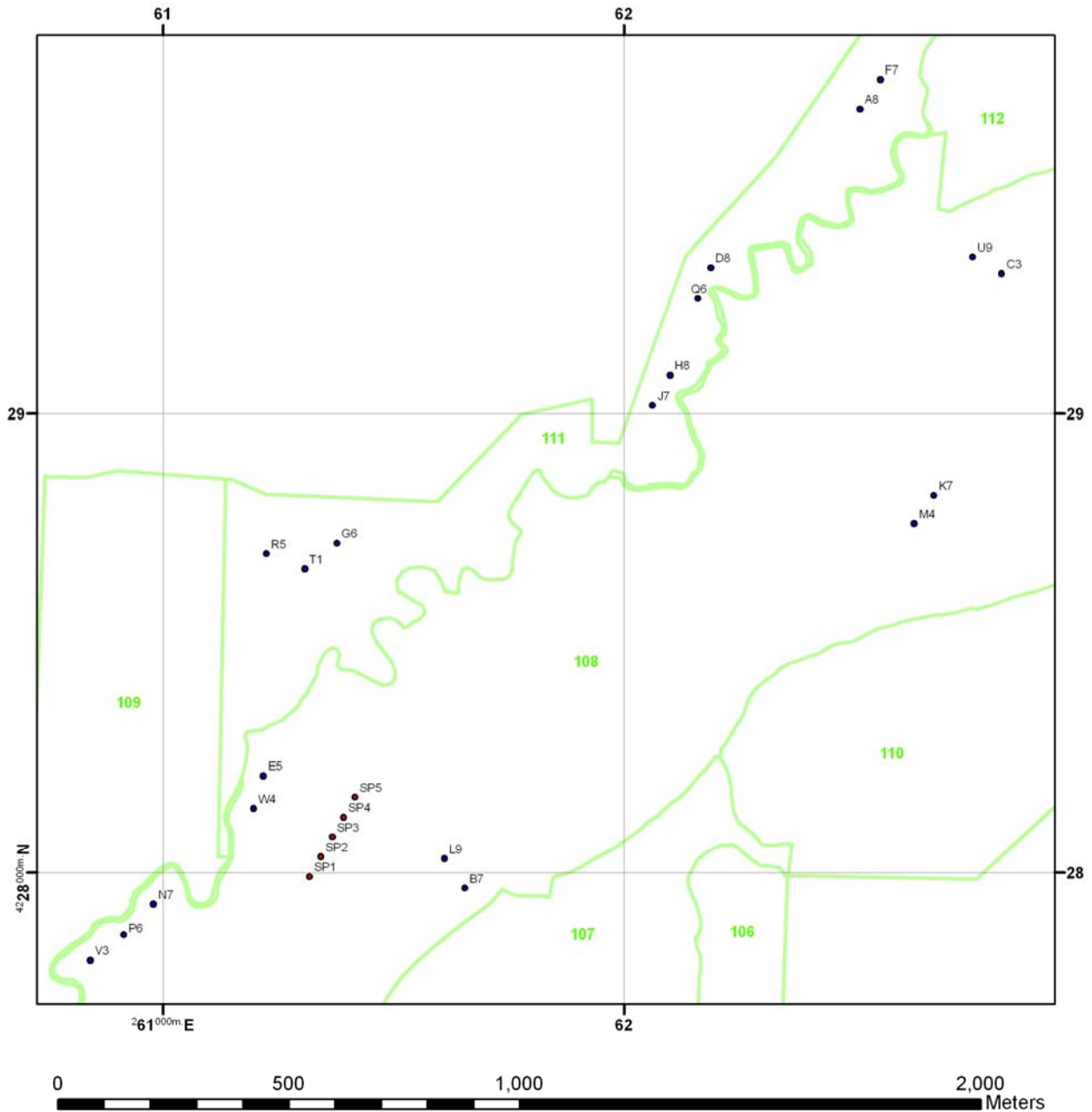
#### 108 Land Nav Points

#### TYPE

- START POINTS
- OTHER POINTS

Datum and Projection: WGS84, UTM Zone 16N  
100km GSI: BH  
All data from DMAIL-Environmental, except

Map created by James Mortland  
Map created on 18 DEC 07



## POINT TO POINT DISTANCE AND DIRECTION FOR THE CREATION OF ALTERNATE COURSES

DIST_M	FR_POINT	TO_POINT	GRID_AZ	BACK_AZ
1902.537	A8	B7	206.747	26.747
473.052	A8	C3	139.399	319.399
77.739	A8	F7	34.781	214.781
857.322	A8	K7	169.171	349.171
1865.546	A8	L9	208.863	28.863
912.023	A8	M4	172.597	352.597
405.523	A8	U9	142.858	322.858
78.321	B7	L9	325.981	145.981
1774.797	C3	B7	221.008	41.008
504.562	C3	K7	196.899	16.899
1756.170	C3	L9	223.474	43.474
577.405	C3	M4	199.232	19.232
473.566	D8	A8	43.033	223.033
1454.071	D8	B7	201.508	21.508
631.143	D8	C3	91.174	271.174
550.613	D8	F7	41.896	221.896
693.254	D8	K7	135.670	315.670
1411.220	D8	L9	204.130	24.130
711.345	D8	M4	141.719	321.719
568.577	D8	U9	87.705	267.705
1944.939	E5	A8	41.670	221.670
501.099	E5	B7	119.394	299.394
1938.684	E5	C3	55.646	235.646
1471.554	E5	D8	41.209	221.209
2022.140	E5	F7	41.416	221.416
530.768	E5	G6	17.540	197.540
1239.810	E5	H8	45.320	225.320
1166.680	E5	J7	46.350	226.350
1577.230	E5	K7	67.206	247.206
432.481	E5	L9	114.724	294.724
1513.403	E5	M4	68.758	248.758
1403.032	E5	Q6	42.220	222.220
483.271	E5	R5	0.773	180.773
459.067	E5	T1	11.287	191.287
1908.186	E5	U9	53.685	233.685
1979.542	F7	B7	207.069	27.069
498.393	F7	C3	148.108	328.108
913.385	F7	K7	172.653	352.653
1942.885	F7	L9	209.096	29.096
971.026	F7	M4	175.678	355.678
435.943	F7	U9	152.605	332.605
1476.540	G6	A8	50.096	230.096
801.292	G6	B7	159.811	339.811
1555.962	G6	C3	67.787	247.787
1008.259	G6	D8	53.418	233.418
1551.650	G6	F7	49.372	229.372
808.947	G6	H8	63.143	243.143
746.684	G6	J7	66.339	246.339

1298.366	G6	K7	85.353	265.353
725.482	G6	L9	161.285	341.285
1251.232	G6	M4	88.079	268.079
946.958	G6	Q6	55.714	235.714
1512.406	G6	U9	65.636	245.636
712.049	H8	A8	35.306	215.306
1203.044	H8	B7	201.700	21.700
752.628	H8	C3	72.831	252.831
251.069	H8	D8	20.564	200.564
789.785	H8	F7	35.241	215.241
629.178	H8	K7	114.486	294.486
1160.746	H8	L9	204.902	24.902
619.886	H8	M4	121.434	301.434
178.245	H8	Q6	20.021	200.021
705.144	H8	U9	68.532	248.532
787.895	J7	A8	34.748	214.748
2212.413	J7	B7	24.591	204.591
809.737	J7	C3	69.158	249.158
326.552	J7	D8	22.638	202.638
865.634	J7	F7	34.750	214.750
76.196	J7	H8	29.523	209.523
640.357	J7	K7	107.676	287.676
1084.813	J7	L9	204.591	24.591
622.015	J7	M4	114.420	294.420
253.710	J7	Q6	22.870	202.870
765.837	J7	U9	64.932	244.932
1330.258	K7	B7	229.884	49.884
1324.254	K7	L9	233.276	53.276
76.114	K7	M4	214.962	34.962
1256.869	M4	B7	230.782	50.782
1252.221	M4	L9	234.347	54.347
2313.168	N7	A8	41.444	221.444
675.830	N7	B7	87.064	267.064
2295.957	N7	C3	53.217	233.217
1839.831	N7	D8	41.037	221.037
368.314	N7	E5	40.311	220.311
2390.398	N7	F7	41.252	221.252
881.955	N7	G6	26.850	206.850
1607.045	N7	H8	44.179	224.179
1533.453	N7	J7	44.883	224.883
1912.997	N7	K7	62.241	242.241
638.946	N7	L9	80.999	260.999
1845.663	N7	M4	63.322	243.322
1771.188	N7	Q6	41.825	221.825
802.304	N7	R5	17.763	197.763
801.279	N7	T1	24.168	204.168
2268.113	N7	U9	51.535	231.535
301.740	N7	W4	46.124	226.124
2405.693	P6	A8	41.533	221.533
746.115	P6	B7	82.185	262.185
2387.393	P6	C3	52.875	232.875
1932.327	P6	D8	41.186	221.186
460.775	P6	E5	41.040	221.040
2482.908	P6	F7	41.344	221.344
970.861	P6	G6	28.455	208.455

1699.652	P6	H8	44.173	224.173
1626.048	P6	J7	44.855	224.855
2001.136	P6	K7	61.396	241.396
715.000	P6	L9	76.536	256.536
1933.270	P6	M4	62.372	242.372
92.608	P6	N7	43.938	223.938
1863.736	P6	Q6	41.919	221.919
886.371	P6	R5	20.417	200.417
888.992	P6	T1	26.207	206.207
2359.934	P6	U9	51.253	231.253
394.296	P6	W4	45.607	225.607
542.133	Q6	A8	40.275	220.275
1381.221	Q6	B7	201.493	21.493
660.379	Q6	C3	85.245	265.245
72.851	Q6	D8	21.848	201.848
619.562	Q6	F7	39.562	219.562
667.173	Q6	K7	129.927	309.927
1338.430	Q6	L9	204.256	24.256
678.033	Q6	M4	136.359	316.359
602.076	Q6	U9	81.376	261.376
1610.978	R5	A8	53.005	233.005
846.555	R5	B7	149.472	329.472
1707.083	R5	C3	69.046	249.046
1147.448	R5	D8	57.059	237.059
1685.000	R5	F7	52.149	232.149
155.150	R5	G6	81.538	261.538
957.415	R5	H8	66.045	246.045
897.348	R5	J7	68.934	248.934
1453.205	R5	K7	84.978	264.978
768.394	R5	L9	149.818	329.818
1405.487	R5	M4	87.331	267.331
1088.745	R5	Q6	59.306	239.306
89.629	R5	T1	111.640	291.640
1662.177	R5	U9	67.093	247.093
2055.154	SP1	A8	35.450	215.450
336.911	SP1	B7	94.273	274.273
1994.665	SP1	C3	48.757	228.757
1586.958	SP1	D8	33.219	213.219
242.781	SP1	E5	335.515	155.515
2132.888	SP1	F7	35.433	215.433
729.460	SP1	G6	4.670	184.670
1343.110	SP1	H8	35.540	215.540
1267.362	SP1	J7	35.903	215.903
1588.708	SP1	K7	58.435	238.435
294.877	SP1	L9	82.239	262.239
1519.190	SP1	M4	59.562	239.562
344.190	SP1	N7	259.971	79.971
422.582	SP1	P6	252.552	72.552
1515.599	SP1	Q6	33.743	213.743
710.439	SP1	R5	352.388	172.388
50.000	SP1	SP2	29.557	209.557
100.000	SP1	SP3	29.557	209.557
150.000	SP1	SP4	29.557	209.557
200.000	SP1	SP5	29.557	209.557
671.231	SP1	T1	359.083	179.083

1972.291	SP1	U9	46.791	226.791
509.201	SP1	V3	249.217	69.217
192.541	SP1	W4	320.874	140.874
2005.426	SP2	A8	35.609	215.609
318.764	SP2	B7	102.423	282.423
1947.520	SP2	C3	49.247	229.247
1537.062	SP2	D8	33.331	213.331
217.220	SP2	E5	324.777	144.777
2083.158	SP2	F7	35.589	215.589
684.426	SP2	G6	2.909	182.909
1293.394	SP2	H8	35.785	215.785
1217.682	SP2	J7	36.168	216.168
1545.111	SP2	K7	59.314	239.314
267.523	SP2	L9	90.747	270.747
1476.106	SP2	M4	60.544	240.544
378.010	SP2	N7	254.111	74.111
460.403	SP2	P6	248.304	68.304
1465.737	SP2	Q6	33.901	213.901
671.274	SP2	R5	349.813	169.813
50.000	SP2	SP3	29.557	209.557
100.000	SP2	SP4	29.557	209.557
150.000	SP2	SP5	29.557	209.557
628.650	SP2	T1	356.770	176.770
1924.590	SP2	U9	47.231	227.231
548.619	SP2	V3	245.870	65.870
180.479	SP2	W4	305.922	125.922
1955.712	SP3	A8	35.773	215.773
307.754	SP3	B7	111.353	291.353
1900.520	SP3	C3	49.746	229.746
1487.174	SP3	D8	33.448	213.448
201.063	SP3	E5	311.765	131.765
2033.440	SP3	F7	35.718	215.718
640.130	SP3	G6	0.900	180.900
1243.701	SP3	H8	36.044	216.044
1168.030	SP3	J7	36.446	216.446
1501.912	SP3	K7	60.245	240.245
247.356	SP3	L9	100.953	280.953
1433.471	SP3	M4	61.578	241.578
415.110	SP3	N7	249.276	69.276
500.367	SP3	P6	244.749	64.749
1415.886	SP3	Q6	34.036	214.036
633.635	SP3	R5	346.921	166.921
50.000	SP3	SP4	29.557	209.557
100.000	SP3	SP5	29.557	209.557
587.239	SP3	T1	354.128	174.128
1877.008	SP3	U9	47.677	227.677
589.644	SP3	V3	243.024	63.024
181.862	SP3	W4	290.045	110.045
1906.013	SP4	A8	35.942	215.942
304.654	SP4	B7	120.688	300.688
1853.678	SP4	C3	50.293	230.293
1437.294	SP4	D8	33.601	213.601
196.642	SP4	E5	297.392	117.392
1983.737	SP4	F7	35.881	215.881
596.736	SP4	G6	358.597	178.597

1194.034	SP4	H8	36.315	216.315
1118.409	SP4	J7	36.771	216.771
1459.148	SP4	K7	61.276	241.276
236.223	SP4	L9	112.561	292.561
1391.327	SP4	M4	62.667	242.667
454.688	SP4	N7	245.277	65.277
541.999	SP4	P6	241.701	61.701
1366.045	SP4	Q6	34.208	214.208
597.812	SP4	R5	343.665	163.665
50.000	SP4	SP5	29.557	209.557
547.265	SP4	T1	351.093	171.093
1829.556	SP4	U9	48.174	228.174
631.964	SP4	V3	240.489	60.489
196.404	SP4	W4	275.505	95.505
1856.330	SP5	A8	36.086	216.086
309.702	SP5	B7	129.983	309.983
1807.005	SP5	C3	50.850	230.850
1387.422	SP5	D8	33.732	213.732
204.720	SP5	E5	283.245	103.245
1934.050	SP5	F7	36.051	216.051
554.456	SP5	G6	355.939	175.939
1144.395	SP5	H8	36.600	216.600
1068.823	SP5	J7	37.115	217.115
1416.858	SP5	K7	62.313	242.313
235.409	SP5	L9	124.693	304.693
1349.719	SP5	M4	63.807	243.807
496.151	SP5	N7	241.884	61.884
584.943	SP5	P6	239.070	59.070
1316.216	SP5	Q6	34.389	214.389
564.149	SP5	R5	340.022	160.022
509.066	SP5	T1	347.593	167.593
1782.243	SP5	U9	48.679	228.679
675.334	SP5	V3	238.317	58.317
221.530	SP5	W4	263.637	83.637
1566.203	T1	A8	50.209	230.209
777.717	T1	B7	153.520	333.520
1642.210	T1	C3	66.918	246.918
1097.896	T1	D8	53.274	233.274
1641.280	T1	F7	49.460	229.460
89.686	T1	G6	51.456	231.456
896.961	T1	H8	61.949	241.949
833.668	T1	J7	64.756	244.756
1373.701	T1	K7	83.261	263.261
700.150	T1	L9	154.363	334.363
1324.307	T1	M4	85.727	265.727
1036.415	T1	Q6	55.376	235.376
1599.504	T1	U9	64.868	244.868
1762.159	U9	B7	218.685	38.685
72.467	U9	C3	119.816	299.816
525.511	U9	K7	189.167	9.167
1740.474	U9	L9	221.128	41.128
594.964	U9	M4	192.357	12.357
2494.598	V3	A8	41.984	221.984
826.844	V3	B7	79.156	259.156
2478.165	V3	C3	52.882	232.882



2021.133	V3	D8	41.740	221.740
549.789	V3	E5	43.087	223.087
2571.744	V3	F7	41.758	221.758
1053.856	V3	G6	30.532	210.532
1789.307	V3	H8	44.636	224.636
1715.863	V3	J7	45.307	225.307
2091.073	V3	K7	61.035	241.035
799.277	V3	L9	73.997	253.997
2022.984	V3	M4	62.001	242.001
182.755	V3	N7	48.612	228.612
90.776	V3	P6	53.413	233.413
1952.776	V3	Q6	42.461	222.461
963.769	V3	R5	23.347	203.347
970.605	V3	T1	28.656	208.656
2450.648	V3	U9	51.326	231.326
484.385	V3	W4	47.037	227.037
2012.573	W4	A8	40.768	220.768
489.587	W4	B7	110.843	290.843
1996.893	W4	C3	54.282	234.282
1539.501	W4	D8	40.048	220.048
74.584	W4	E5	16.270	196.270
2089.906	W4	F7	40.536	220.536
605.336	W4	G6	17.383	197.383
1305.517	W4	H8	43.727	223.727
1231.797	W4	J7	44.583	224.583
1625.264	W4	K7	65.165	245.165
427.900	W4	L9	104.838	284.838
1559.956	W4	M4	66.568	246.568
1470.467	W4	Q6	40.942	220.942
555.500	W4	R5	2.832	182.832
533.408	W4	T1	11.987	191.987
1967.940	W4	U9	52.398	232.398

SPARTA TRAINING AREA  
108 LAND NAVIGATION COURSE

COMMON TASKS REQUIRED

- #071-329-1000 Identify topographic symbols on a military map.....
- #071-329-1001 Identify terrain features on a map.....
- #071-329-1012 Orient a map to the ground by map-terrain association.....
- #071-329-1002 Determine the grid coordinates of a point on a military map using the  
military grid reference system.....
- #071-329-1005 Determine a location on the ground by terrain association.....
- #071-329-1003 Determine a magnetic azimuth using a lensatic compass.....
- #071-329-1018 Determine direction using field-expedient methods.....
- #071-329-1008 Measure distance on a map.....
- #071-326-0515 Select a movement route using a map.....
- #071-329-1006 Navigate from one point on the ground to another point while dismounted.....
- #071-329-1009 Convert azimuths.....
- #071-329-1011 Orient a map using a lensatic compass.....
- #071-329-1019 Use a map overlay.....
- #071-329-1004 Determine the elevation of a point on the ground using a map.....
- #071-329-1014 Locate an unknown point on a map and on the ground by intersection.....
- #071-329-1015 Locate an unknown point on a map and on the ground by resection.....
- #071-510-0001 Determine azimuth using a protractor.....
- #071-510-0002 Compute back azimuths.....