Mean, Median, Mode, Range

Hello! My name is Alyceson-Grace Eke from the UNT Learning Center, and today we will be covering mean, median, mode, and range.

What is mean?
Mean is the same as average. It is the calculated central value of the numbers in a set of data.

Here is an example of calculating a mean:

Example 1:
Number Set: 4, 9, 13, 15, 8

To calculate the mean, first add up all the terms (also known as numbers) in the set and find that total. 4+9+13+15+8 equals 49. Next, divide the total, also known as the sum, by the number of terms. There are 5 terms: 4, 9, 13, 15, and 8.

49/5 = 9.8

9.8 is the average in this set.

What is median?
Median is the middle number for the set of terms. It is the physical central value of the numbers in a set of data.

We will use the same numbers from the first example.

Example 2:
Number Set: 4, 9, 13, 15, 8

First, organize the numbers from smallest to largest. Now, the number set should look like this:

4, 8, 9, 13, 15.

Next, cross off one number from each side until you get to the middle. We cross off 4 and 15, then 8 and 13. The only one we are left with is 9. That is our median.

Let's try it with an extra number.

Example 3:
Number Set: 4, 6, 8, 9, 13, 15

If you have an even set of numbers, like this one, follow the steps, then take the average of the last two standing. In this case, cross off 4 and 15, 6 and 13, and take the average of 8 and 9, which is 8.5. That is our new median.

What is mode?

Mode is the most frequently occurring number in a data set. You can even have more than one mode! It just has to be the most frequently occurring number. If there is no most occurring number, then there is no mode.

Example 4:
Number Set: 4, 4, 6, 8, 9, 9, 9, 13, 15

If you list out all of the numbers, which one is displayed most often? There are three nines in the set, and no other numbers have three of themselves in the set. Therefore, nine must be the mode.

What is range?

Range is the difference between the biggest and smallest number in a data set. There is only one biggest number and one smallest number.

Example 5:
Number Set: 4, 4, 6, 8, 8, 9, 9, 9, 13, 13, 15

The biggest number in the set is 15. The smallest number in the set is 4. 15 minus 4 is 11.
11 is your range.

Try it out!

Now, I'm going to give you three data sets. Find mean, median, mode, and range for each data set. After you complete all three, I will review the answers with you! Round to two decimal places.

Data Set 1:
0, 4, 14, 6, 8, 9, 10, 9, 6

Data Set 2:
10, 0, 10, 4, 6, 9, 12, -5, 15, 7, 16, 10,

Data Set 3:
0, 6, 8, 1, 10, 4

Pause the video and find the answers to each one!

<u>Review Answers</u>

Data Set 1:
Mean: 7.33
Median: 8
Mode: 6 & 9
Range: 14

Data Set 2:
Mean: 7.83
Median: 9.5
Mode: 10
Range: 21

Data Set 3:
Mean: 4.83
Median: 5
Mode: No Mode
Range: 10

Here's a refresher on the steps, if you need one!

Mean: Add all the numbers together for a data set, then divide by the number of terms.
Median: Order from smallest to biggest, then cross off one on each side until you get to the middle.
Take an average if you have two left.
Mode: The most frequently occurring number.
Range: Take the difference between the biggest and smallest number.

With this, you have everything you need to solve for questions asking for mean, median, mode, and range. I hope this helps, and I can't wait to go on more data statistics adventures with you in the future!
Bye for now!