Name_____

Reteaching Page
6.2 Mean, Median, Mode and Range

Mean, Median, Mode and Range are ways to describe a data set. (averages)

1. **The first thing to do is to put the data in order from least to greatest!**

2. **Follow the processes for each of the descriptors.**

Mean –

1. Find the Sum of the data.
2. Divide by the number of items in the data set.

Median –

1. Put the data in order from least to greatest.
2. Find the middle term.
   In the event that there are two terms in the middle – find the average of the 2 terms

Mode –

1. Find the term that occurs the most often.
2. In the event that no term occurs more often than the others – the answer is **no mode**.

{1, 1, 2, 2, 3, 3} No term occurs more often so it is no mode.
{1, 1, 2, 3, 3} One and three occur more often than 2 so the answer is 1 and 3.

Range –

1. Subtract the **least** value from the **greatest** value.

Follow the procedures to find the Mean, Median, Mode and Range of the following data set.

Bill's Bowling Scores			
75	96	101	84

Step 1. 75, 84, 96, 101

_____ = Mean   **Mean:** $75 + 84 + 96 + 101 = 356$

_____ = Median $356 \div 4 = 89$

_____ = Mode   **Median:** The middle numbers are 84 and 96.

_____ = Range $84 + 96 = 180$

$180 \div 2 = 90$

Mode: No data occurs more often that the others.

Range: $101 - 75 = 26$

Reteaching Page
6.2b - Mean, Median, Mode and Range – EOG Style

Now that you understand how to do Mean, Median, Mode and Range, we need to look at the way that you will be tested on the skills. North Carolina likes to force you to prove your mastery in this area by making you work backwards. They will tell you the "average" of a data set and then require you to find a missing element.

Let's work through a few examples together.

The average of a data set is 24. If 5 of the numbers are 16, 30, 28, 28 and 21 what is the missing value?

Think about the total set – it contains 6 values – (the five given plus a missing value)
- Apply the formula: mean = (sum of data values)/(number of values)
- We do not know the sum of the data values because one of them is missing, so we will make that a variable and rewrite the formula as an algebraic expression.
- mean = (sum of data values)/(number of values)
- **24** = (sum of data values)/ **6**
  - The 24 is given in the problem and the 6 is inferred by adding one to the 5 given values.
- So 24 * 6 = (sum of data values)
  - 144 = (sum of data values)
  - Now the data values are 16 + 30 + 28 + 28 + 21 + (don't know)
  - 144 = 123 + (don't know)
  - 144 – 123 = (don't know)
  - The missing value is 21

Repeat that process for Jenny's grades.
Jenny wants to make an A on her test average. Her current test scores are 89, 96, 94 and 97. What is the lowest possible score she can make on the next test and still carry a 93% average?

Think about the total set – it contains ____values – (the ____ given plus a missing value)
- Apply the formula: mean = (sum of data values)/(number of values)
- We do not know the sum of the data values because one of them is missing, so we will make that a variable and rewrite the formula as an algebraic expression.
- mean = (sum of data values)/(number of values)
- ____= (sum of data values)/ ____

  - The mean (____) is given in the problem and the (number of values)____ is inferred by adding

    one to the ___ given values.

- So ____* ____ = (sum of data values)

  - ____= (sum of data values)

  - Now the data values are 89 + 96 + 94 + 97 + (don't know)

  - ____= ____ + (don't know)

  - ____– ____= (don't know)

  - The missing value is ____

Reteaching Page
6.2c - Mean, Median, Mode and Range – EOG Style

Now that you understand how to do **Range**, we need to look at the way that you will be tested on the skill. North Carolina likes to force you to prove your mastery in this area by making you work backwards. They will tell you the "range" of a data set and then require you to find a missing element.

Let's work through a few examples together.

The range of a data set is 15. If 5 of the numbers are 42, 46, 38, 47 and 36 what could be the missing value?

a) 39   b) 24   c) 32   d) 49

Range is **greatest value – least value**. Let's see if the range of the given set is 15.
1. Put the data in order 36, 38, 42, 46, 47
2. $47 – 36 = 11$
     a. The current range is 13.
     b. We are looking for a new value that will be either the least in the data set or the greatest.
To find the correct least value, subtract the required range from the greatest value.
   - $47 – 15 = 32$
To find the correct greatest value, add the required range to the least value.
   - $36 + 15 = 51$
Now find which of the possible correct answers are offered on your multiple choice test!

Repeat that process for Greg's grades.

Greg keeps track of his grades and knows the range of his grades is 21%. However, rain caused his records to become blurry and he was only able to salvage four out of five of them. He can read 94, 91, 97, 88. Which of the following is the missing grade?

a) 100   b) 78   c) 84   d) 76

Range is **greatest value – least value**. Let's see if the range of the given set is 21.

1. Put the data in order ____, ____, ____, ____

2. ____– ____= ____

     a. The current range is ____.

     b. We are looking for a new value that will be either the least in the data set or the greatest.

To find the correct least value, subtract the required range from the greatest value.

   - ____– 21 = ____

To find the correct greatest value, add the required range to the least value.

   - ____+ 21 = ____

Now find which of the possible correct answers are offered on your multiple choice test!