## Measures: Mean, Median, Mode, and Range - Guided Lesson Explanation

### Explanation#1

The mean is the average of the numbers. We have to find out the mean by adding the numbers together and then dividing by the number of numbers in the group.

There are 5 numbers in the group. If the average was 14, that would mean that the sum of all numbers would be:

5 x 14 = 70

To find the number, we solve:

17 + 17 + 15 + 16 + n = 70

65 + n = 70    (subtract 65 from both sides)

n = 5

When n = 5, the mean is 14.

### Explanation#2

The median is the middle number of the data set.  There are 5 pieces of data. Let's list the data in numeric order:

1, 2, 3, 3, 4

We can use this formula to determine the position of data:

$$\text{Median} = \frac{\text{Number of elements in set} + 1}{2}$$

$\text{Median} = \dfrac{5 + 1}{2} = \dfrac{6}{2} = 3^{\text{rd}}$ number of tractors

1, 2, **3**, 3, 4

The median is 3 tractors.

**Explanation#3**

The "mean" is the "average" we are used to, where we add up all the numbers and then divide by the number of numbers.

$$\text{Mean} = \frac{\text{Sum of elements in set}}{\text{Number of element in set}}$$

The "median" is the "middle" value in the list of numbers. To find the median, your numbers have to be listed in numerical order, so we may have to rewrite our list first.

$$\text{Median} = \frac{\text{Number of element in set} + 1}{2}$$

"Mode" is the data item that occurs most often.

The "range" is just the difference between the largest and smallest values.

$$\text{mean} = \frac{477}{9}$$

$$\frac{477}{7} = 53$$

$$\text{Median} = \frac{9+1}{2} = \frac{10}{2} = 5 \text{ (position 5 in numeric order)}$$

39, 42, 44, 44, **55**, 56, 63, 64, 70

Median is 55.


Mode = 39, 42, 44, 44, 55, 56, 63, 64, 70

Item that occurs most often.

Mode is: 44


Range = 70 - 39 = 31

Answer is: 31