Measures of Center and Variability - Guided Lesson Explanation

Explanation#1

We know that the range is the difference between the greatest number and the least number.

1) We will find the original range. Subtract the least number from the greatest number.

$9 - 1 = 8$ The original range is 8.

Now we will replace one of the 2s with 6.

6 7 **6** 5 1 9 7 2 3

Now find the new range. Subtract the least number from the greatest number.

$9 - 1 = 8$ The new range would also be 8.

The range would not change.

Explanation#2

We already know that the mean is average of the numbers. We find the mean by adding the numbers together and then dividing by the number of numbers in the group.

The numbers we are working with: 12, 10, 15, 6, 7

Count how many numbers are in the group?   There are 5 numbers.

Now we will add the numbers together. $12 + 10 + 15 + 6 + 7 = 50$

Then we have to divide the sum by the number of numbers.

$50 \div 5 = 10$

So, the mean is10.

Explanation#3

The median would be the most accurate measure since it would provide us with the middle number. It would also provide us with a salary that is not be skewed too high or low by the highest and lowest salaries.

To determine the median we will first list the values in ascending order.

54346,67850,79574,**83745,96240**,97582,124000,142875

Since this is an even data set (6 values), we will need to take the average of the values at the 4th and 5th positions.

(83745+96240)/2 = 89992

The median value is: $89,992