Name _____ Date _____

The Measure of Center of Data Sets - Guided Lesson Explanation

Explanation#1

Step 1a)

We can find how many visitors there were for five days by simply adding the data.

42 + 36 + 24 + 58 + 40 = 200

Answer is: 200 visitors

Step 1b) The "mean" is the "average", where we add up all the numbers and then divide by the number of numbers we have in the set.

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

$$\text{mean} = \frac{200}{5}$$

$$\frac{200}{5} = 40$$

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

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

$$\text{Median} = \frac{5+1}{2} = \frac{6}{2} = 3$$ (It would be the data in the 3rd position)

24, 36, **40**, 42, 58

Median is 40.

Explanation#2

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

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

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

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

Step 3a) mean = $\frac{770}{7}$

$\frac{770}{7}$ = 110

Median = $\frac{7+1}{2} = \frac{8}{2} = 4$ (position 4 in the ordered data set)

40, 60, 80, **90**, 100, 150, 250

Median is 90.

b) The "range" is just the difference between the largest and smallest values. Range = 250 - 40 = 210

Explanation#3

a) We count how many bananas each person has.

1+ 1 + 2 + 3 + 3 + 3 + 3 + 3 + 3 + 4 + 4 + 4 + 4 + 5 + 5 + 5 + 5 + 5 + 6 + 6 + 6 + 6 + 6 + 7 + 7 + 7 + 7 = 117

Answer is: 117 bananas

b) The "mean" is the "average" we're 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, our numbers have to be listed in numerical order, so we may have to rewrite our list first.

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

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b) Mean = $\frac{117}{26}$ = 4.5

Median = $\frac{26+1}{2}$ = $\frac{27}{2}$ = 13.5

(The median would be the average of 13th and 14th position in the data set)

1, 1 , 2 , 3 , 3 , 3 , 3 , 3 , 3 , 4 , 4 , 4 , 4 , 5 , 5 , 5 , 5 , 5 , 6 , 6 , 6 , 6 , 6 , 7 , 7 , 7 , 7

Median is 4.5 (mean of 4 and 5)

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

Range = 7 – 1 = 6