

Mean, median, mode, and range

Mean, median, mode, and range are measures that describe a data set.

Mean, median, and mode are measures of central tendency. In other words, they tell you about the center, or middle, of the data set.

The range of a data set is a measure of variability, or how spread out the data values are.

Mean

The mean of a data set is the average. You can find the mean by adding the numbers in the data set and then dividing by the number of values in the set.

Let's try it! Find the mean of the data set below.

The data set shows the shoe sizes of ten sixth-grade students.

4 5 5 6 7 5 6 8 7 5

First, add the numbers in the data set.

$$4 + 5 + 5 + 6 + 7 + 5 + 6 + 8 + 7 + 5 = 58$$

Then, divide that sum by the number of values in the set. There are ten values.

$$58 \div 10 = 5.8$$

So, the mean shoe size is 5.8.

Median

The median of a data set is the middle number of the ordered values. You can find the median by ordering the values and finding the middle number.

Let's try it! Find the median of the shoe size data.

4 5 5 6 7 5 6 8 7 5

First, order the values from least to greatest.

4, 5, 5, 5, 5, 6, 6, 7, 7, 8

Now, find the middle number.

~~4~~, ~~5~~, ~~5~~, ~~5~~, ~~5~~, (5, 6), ~~6~~, ~~7~~, ~~7~~, ~~8~~

There are two middle numbers, so you need to find their average. Add the two middle numbers together and divide the sum by two.

$$\frac{5 + 6}{2} = \frac{11}{2} = 5.5$$

So, the median shoe size is 5.5.

Mode

The mode is the number that occurs most often in a data set.

Let's try it! Find the mode of the shoe size data.

4 5 5 6 7 5 6 8 7 5

First, order the numbers from least to greatest.

4, 5, 5, 5, 5, 6, 6, 7, 7, 8

Then, find the number that occurs the most.

There is one 4, four 5s, two 6s, two 7s, and one 8.

Since there are four 5s, 5 occurs the most often.

So, the mode of the shoe sizes is 5.

Range

The range of a data set measures variability, or how spread out the data values are.

The range is the difference between the greatest value and the least value.

Let's try it! Find the range of the shoe size data.

4 5 5 6 7 5 6 8 7 5

The greatest value in the data set is 8. The least value is 4. So, subtract 4 from 8.

$$8 - 4 = 4$$

So, the range of the shoe sizes is 4.

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Vincent played a card game called Hearts. His scores on 10 hands of the game were:

16 points 15 points 15 points 14 points 13 points 14 points 13 points
13 points 14 points 15 points

What was the mean score for all of his hands? Round your answer to the nearest whole number.

points



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