

Mean, Median, and Mode

The mean of a set of numerical values is the average of the set of values. It is obtained by dividing the sum of data by the number of observations.

Example 1: Find the mean of the following set of integers.

$$8 \quad 11 \quad -6 \quad 22 \quad -3$$

$$\frac{8+11+(-6)+22+(-3)}{5} = 6.4$$

The median of a numerical data set is the numerical value in the middle when the data set is arranged in increasing order.

How to find the median?

The median is the middle value.

To find the median for a numerical data set first arrange the data in increasing order and then count the number of values. Two cases exist:

1. Odd set of values
2. Even set of values

1. The number of terms is odd: When the number of values in the data set is odd, the median will be the middle value in the order

Example 2: Given the values 3 6 9 13 19, the median is 9.

2. The number of terms is even: When the number of values in the data set is even, the median will be the average of the two middle values in the ordered array. In other words take the average of both middle points.

Example 3: Given the values 4 7 8 10 15 19, the median is $\frac{8+10}{2} = \frac{18}{2} = 9$

The mode of a numerical data set is the most frequently occurring value in the data set. So, it is the value that appears the most.

What is the mode for the following sample values

1 3 2 3 4 3 5 6 8 9 6 3 1 4 5 9

Observe that the value of 3 is the most repeated number, so the mode is 3