

Mean, Median, and Mode

Median of a Dataset

The median of a dataset is the value that, assuming the dataset is ordered from smallest to largest, falls in the middle. If there are an even number of values in a dataset, the middle two values are the median.

Say we have a dataset with the following ten numbers:

24, 16, 30, 10, 12, 28, 38, 2, 4, 36

We can order this dataset from smallest to largest:

2, 4, 10, 12, 16, 24, 28, 30, 36, 38

The medians of this dataset are 16 and 24, because they are the fifth- and sixth-positioned observations in this dataset. In other words, there are four observations to the left of 16, and four observations to the right of 24.

If we added another value (say, 28) near the middle of this dataset:

2, 4, 10, 12, 16, 24, 28, 28, 30, 36, 38

The new median is equal to 24, because there are 5 values smaller than it, and 5 values larger than it.

Mean of a Dataset

The *mean*, or *average*, of a dataset is calculated by adding all the values in the dataset and then dividing by the number of values in the set.

For example, for the dataset [1,2,3], the mean is

$$1+2+3 / 3 = 2 .$$

