

Cheatsheets / **Statistics: Mean, Median, Mode**

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# 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.

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



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