

## Statistics

There are several ways to study a list of data.

**Mean**, or average, is the sum of all the data values divided by the number of values.

**Median** is the number that separates the list of data into two equal parts. To find the median, list the data in order from smallest to largest. If the number of data is odd, the median is the middle number. If the number of data is even, the median is the average of the two middle numbers.

**Mode** is the number in the list that occurs the most frequently. There can be more than one mode.

*For example, consider the following list of test scores:*

$$\{87, 56, 69, 87, 93, 82\}$$

To find the mean, first add:

$$87 + 56 + 69 + 87 + 93 + 82 = 474.$$

Then divide by 6:

$$\frac{474}{6} = 79.$$

The mean score is 79.

To find the median, first list the data in order:

$$56, 69, 82, 87, 87, 93.$$

Since there is an even number of data, we take the average of 82 and 87:

$$\frac{82 + 87}{2} = \frac{169}{2} = 84.5.$$

The median score is 84.5.

The mode is 87, since this number appears twice and each of the other numbers appears only once.