Interquartile Range

This is an ordered list of a set of data with 12 elements.

To find the interquartile range, we must first determine the median of the set of data.

Since there are 12 members in the set, the median will be between the sixth and seventh elements of the ordered data. Six elements will be above or equal to the median, and six elements will be below or equal to the median.

To break the data into quartiles, or four equal groups of elements, we may separate the data set into four equal groups or separate the data above the median into two equal groups and the data below the median into two equal groups.

When we determine the median of the lower half of the set of data, we call this median the “lower quartile.”

When we determine the median of the upper half of the set of data, we call this median the “upper quartile.”

The quartiles are the values at each of the points where the set of data is divided into quarters, or four equal groups.

The interquartile range is the difference between the upper quartile and the lower quartile.

The interquartile range is the range of the 50 percent of the data that is located in the center of a box plot. In this case, the interquartile range is five and five-tenths. The range of the middle 50 percent of the data elements is five and five-tenths.