

Measures of Central Tendency and Range

Four statistical measures that help you describe a set of data are the mean, median, mode and range.

The **mean**, or arithmetic average, is the sum of the values divided by the number of items of data.

The **median** is the middle value when the data are arranged in numerical order. If the number of items of data is odd, the median is the middle value. If the number of items of data is even, add the two middle values and divide by 2.

The **mode** is the value that occurs most frequently in the set of data. Some sets of data have no mode. Some have more than one mode.

The **range** is the difference between the greatest and the least values in a set of data.

It is always helpful to first arrange your data set in order before finding mean, median, mode, and range.

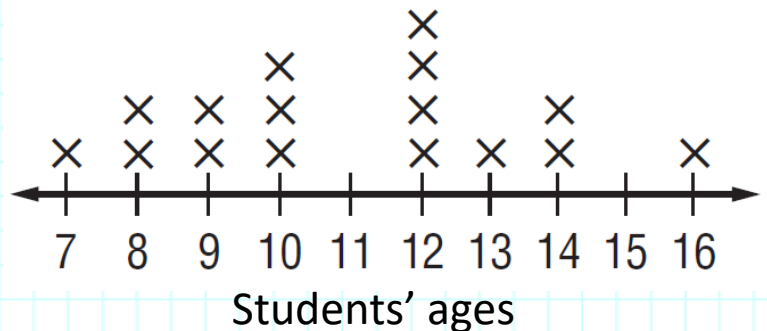
Measures of Central Tendency: mean, median, and mode are referred to as measures of central tendency. Once calculated, they are found near the center of a “normal” ordered data set.

Range: Range is a measure of the variation of the data.

- 1) George surveyed the age of students attending a lacrosse game. The results are shown in the **line plot** below.

What is the range of ages of the students that George surveyed?

What is the median age?



Earth Science

Recent Notable Earthquakes

Date	Place	Magnitude (Richter Scale)
September 19, 1985	Michoacan, Mexico	8.1
December 7, 1988	Armenia	7.0
October 17, 1989	San Francisco Bay Area, CA	7.1
January 16, 1995	Kobe, Japan	6.9
May 10, 1997	Northern Iran	7.5
May 30, 1998	Northeastern Afghanistan	6.9
August 17, 1999	Western Turkey	7.4
January 26, 2001	Gujarat, India	7.9
June 23, 2001	Arequipa, Peru	8.1
March 25–26, 2002	Nahrin, Afghanistan	6.1
January 22, 2003	Colima, Mexico	7.6
May 21, 2003	Northern Algeria	6.8



- 2) Find the mean, median, mode, and range of magnitudes of the earthquakes listed in the table above.