



6-6 Measures of Central Tendency

(Pages 301–306)

To analyze sets of data, researchers often try to find a number or data item that can represent the whole set. These numbers or pieces of data are called **measures of central tendency**.

Mean	The mean of a set of data is the sum of the data divided by the number of pieces of data. The mean is the same as the <i>arithmetic average</i> of the data.
Median	The median is the number in the middle when the data in are arranged in order. When there are two middle numbers, the median is their mean.
Mode	The mode of a set of data is the number or item that appears most often. If no data item occurs more often than others, there is <i>no mode</i> .

EXAMPLE

Find the mean, median, and mode of the following data set.
80, 90, 85, 80, 90, 90, 40, 85

To find the mean, find the sum of the data, divided by the number of pieces of data, or 8.

$$\frac{80 + 90 + 85 + 80 + 90 + 90 + 40 + 85}{8}$$

mean = 80

To find the median, first put the data set in order from least to greatest.

40, 80, 80, 85, 85, 90, 90, 90
The median is the mean of the middle two items, or $\frac{85 + 85}{2}$.
median = 85

The mode is the number of items that occur most often. 90 occurs three times, which is the most often of any data number.
mode = 90

PRACTICE

Find the mean, median and mode for each set of data. When necessary, round to the nearest tenth.

- 18, 23, 7, 33, 26, 23, 42, 18, 11, 25, 23
- 25, 26, 27, 28, 28, 29, 30, 31, 30, 29, 28, 27, 26, 25
- 103, 99, 114, 22, 108, 117, 105, 100, 96, 99, 119
- 2.3, 5.6, 3.4, 7.3, 6.5, 2.9, 7.7, 8.1, 4.6, 2.3, 8.5

5. **School Populations** The table at the right shows the size of each ethnic group in the Central School District student population. Find the mean, median, and mode for the data set.

Ethnic Group	Number of Students
Asian American	534
African American	678
European American	623
Hispanic American	594
Native American	494



6. **Standardized Test Practice** What is the mean of this data set?

1, 2, 3, 4, 5, 6, 5, 4, 3, 2, 1

- A** 36 **B** 6 **C** 3.27 **D** 3.0

Answers: 1. mean = 22.6, median = 23, mode = 23 2. mean = 27.8, median = 28, mode = 28 3. mean = 98.4, median = 103, mode = 99 4. mean = 5.4, median = 5.6, mode = 5.6 5. mean = 2.3 6. C