2-6 Study Guide and Intervention

Mean

The **mean** is the most common measure of central tendency. It is an average, so it describes all of the data in a data set.

Example 1 The picture graph shows the number of members on four different swim teams. Find the mean number of members for the four different swim teams.

Simplify an expression.

$$\text{mean} = \frac{9 + 11 + 6 + 10}{4}$$

$$= \frac{36}{4} \text{ or } 9$$

Swim Team Members	
Amberly	🧍🧍🧍🧍🧍🧍🧍🧍🧍
Carlton	🧍🧍🧍🧍🧍🧍🧍🧍🧍🧍🧍
Hamilton	🧍🧍🧍🧍🧍🧍
Westhigh	🧍🧍🧍🧍🧍🧍🧍🧍🧍🧍

A set of data may contain very high or very low values. These values are called **outliers**.

Example 2 Find the mean for the snowfall data with and without the outlier. Then tell how the outlier affects the mean of the data.

Compared to the other values, 4 inches is low. So, it is an outlier.

Month	Snowfall (in.)
Nov.	20
Dec.	19
Jan.	20
Feb.	17
Mar.	4

mean with outlier

$$\text{mean} = \frac{20 + 19 + 20 + 17 + 4}{5}$$

$$= \frac{80}{5} \text{ or } 16$$

mean without outlier

$$\text{mean} = \frac{20 + 19 + 20 + 17}{4}$$

$$= \frac{76}{4} \text{ or } 19$$

With the outlier, the mean is less than the values of most of the data. Without the outlier, the mean is close in value to the data.

Exercises

SHOPPING For Exercises 1–3, use the bar graph at the right.

1. Find the mean of the data.

2. Which jacket price is an outlier?

3. Find the mean of the data if the outlier is not included.

4. How does the outlier affect the mean of the data?

Jacket Prices