

**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 prices of twelve different jackets are shown. Find the mean.

$$\begin{aligned} \text{mean} &= \frac{25 + 34 + 39 + \dots + 27}{12} && \leftarrow \text{sum of the data} \\ &= \frac{444}{12} \text{ or } 37 && \leftarrow \text{number of data items} \end{aligned}$$

Jacket Prices (\$)			
25	34	39	41
45	52	27	22
56	61	15	27

The mean price of a jacket is \$37.

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**

$$\begin{aligned} \text{mean} &= \frac{20 + 19 + 20 + 17 + 4}{5} \\ &= \frac{80}{5} \text{ or } 16 \end{aligned}$$

**mean without outlier**

$$\begin{aligned} \text{mean} &= \frac{20 + 19 + 20 + 17}{4} \\ &= \frac{76}{4} \text{ or } 19 \end{aligned}$$

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**

Find the mean for each set of data.

1. 11, 8, 7, 12, 10, 9, 13, 26

2. 15, 10, 9, 17, 24, 27, 39, 15, 24

3. 26, 19, 29, 15, 2, 31, 56, 30

4. 108, 121, 73, 79, 56, 91

5. Find the mean for the set of data in Exercise 1 without the outlier. Then tell how the outlier affects the mean of the data.