



REVIEW KEY VOCABULARY

- statistics, p. 744
- measure of central tendency, p. 744
- mean, median, mode, p. 744
- measure of dispersion, p. 745
- range, p. 745
- standard deviation, p. 745
- outlier, p. 746
- normal distribution, p. 757
- normal curve, p. 757
- standard normal distribution, p. 758
- z-score, p. 758
- population, p. 766
- sample, p. 766
- unbiased sample, p. 767
- biased sample, p. 767
- margin of error, p. 768

VOCABULARY EXERCISES

1. Copy and complete: ? is a measure of dispersion that describes the typical difference between a value in a data set and the mean.
2. **WRITING** Describe how multiplying every value in a data set by the same constant affects the mean, median, mode, range, and standard deviation.
3. Copy and complete: The ? for an x -value from a normal distribution represents the number of standard deviations the x -value lies above or below the mean.

REVIEW EXAMPLES AND EXERCISES

Use the review examples and exercises below to check your understanding of the concepts you have learned in each lesson of Chapter 11.

11.1

Find Measures of Central Tendency and Dispersion

pp. 744–749

EXAMPLE

Find the mean, median, mode, range, and standard deviation of the following data set: 13, 13, 13, 19, 24, 24, 27, 28, 34, 35.

$$\text{Mean: } \bar{x} = \frac{13 + 13 + 13 + 19 + \cdots + 35}{10} = 23$$

$$\text{Median: } 24 \quad \text{Mode: } 13 \quad \text{Range} = 35 - 13 = 22$$

$$\text{Standard Deviation: } \sigma = \sqrt{\frac{(13 - 23)^2 + (13 - 23)^2 + \cdots + (35 - 23)^2}{10}} \approx 7.9$$

EXERCISES

Find the mean, median, mode, range, and standard deviation of the data set.

4. 35, 36, 36, 38, 41, 42, 45, 48
5. 75, 76, 79, 85, 88, 88, 90, 92
6. 76, 102, 87, 85, 91, 92, 91, 97
7. 103, 155, 140, 125, 130, 140, 115
8. **GAS PRICES** The list shows the average price of a gallon of gasoline each year from 1994 to 2004. Find the median and standard deviation of the prices.
\$1.04, \$1.13, \$1.13, \$1.26, \$1.13, \$.97, \$1.30, \$1.47, \$1.14, \$1.47, \$1.59

EXAMPLES

1 and 2

on pp. 744–745
for Exs. 4–8