GUIDED PRACTICE

1. **Vocabulary** A measure of variation, or spread of a data set, is the __?__ . *(variance or expected value)*

SEE EXAMPLE 1 Find the mean, median, and mode of each data set.

2. $\{5, 7, 4, 7, 6, 7\}$ 3. $\{2, 4, 4, 6, 6, 6, 7, 8\}$ 4. $\{10, 14, 18, 22, 26\}$

SEE EXAMPLE 2

5. Find the expected value of the prize.

Prize Giveaway					
Value	$0	$1	$5	$20	$100	$1000
Probability	0.9359	0.05	0.01	0.003	0.001	0.0001

SEE EXAMPLE 3 Make a box-and-whisker plot of the data. Find the interquartile range.

6. $\{3, 5, 2, 2, 8, 9, 1, 11\}$ 7. $\{2, 4, 1, 4, 2, 2, 7, 4\}$ 8. $\{33, 34, 31, 27, 22\}$

SEE EXAMPLE 4 Find the variance and standard deviation.

9. $\{3, 3, 4, 5, 5\}$ 10. $\{10, 12, 14, 15, 18, 20, 23\}$ 11. $\{7, 14, 21, 28, 35, 42\}$

SEE EXAMPLE 5

12. **Measurement** Students in a fourth-grade class were asked to measure the widths of their desks in centimeters. They recorded the following measures: 49, 50, 49, 48, 49, 19, 50, 49, 48, 50, 49, and 50. Identify the outlier, and describe how it affects the mean and the standard deviation.

PRACTICE AND PROBLEM SOLVING

Independent Practice

For Exercises	See Example
13–15	1
16	2
17–19	3
20–22	4
23	5

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Online Extra Practice

Find the mean, median, and mode of each data set.

13. $\{4, 16, 25, 9, 36, 49\}$ 14. $\{1, 7, 7, 2, 3, 14, 127, 8\}$ 15. $\{5, 10, 15, 20, 25\}$

16. Find the expected number of heads.

Three Coins Are Tossed				
Number of Heads	0	1	2	3
Probability	$\frac{1}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{8}$

Make a box-and-whisker plot of the data. Find the interquartile range.

17. $\{12, 15, 12, 6, 18, 29\}$

18. $\{2, 2, 3, 8, 2, 8, 2, 42\}$

19. $\{3, 4, 3, 1, 2\}$

Find the variance and standard deviation.

20. $\{4, 4, 4, 4, 5\}$ 21. $\{8, 12, 30, 35, 48, 50, 62\}$ 22. $\{14, 26, 40, 52\}$

23. **Football** The 2004 Cincinnati Bengals scored 24, 16, 9, 17, 17, 23, 20, 26, 17, 14, 58, 27, and 28 points in their first 13 games. Find the mean and the standard deviation of the data. Identify the outlier, and describe how it affects the mean and the standard deviation.

24. **Critical Thinking** Write a set of data in which neither the mean nor the median are data values.

25. **Shopping** You are at a store and want to purchase an accurate room thermometer. One says 73°F, six say 75°F, eight say 76°F, and one says 37°F. Which measure of central tendency would you be least likely to use to pick a thermometer? Explain.