

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Module 19** Analyzing Data and Statistics  
**Lesson 5** Solving Statistics Problems

**independent practice**

1. The distance from the mean to each point is called the \_\_\_\_\_.
  2. What is the mean of the distances from the mean to each point is called?
- a.** mean  
**b.** deviation from the mean  
**c.** deviation from the mode  
**d.** mean absolute deviation

Use the list of data below to answer Questions 3–8.

**Average Winning Race Speeds in the Last 12 Years (mi/h):**  
 132, 141, 146, 149, 151, 154, 162, 166, 173, 176

3. What is the mean speed in the list of average race speeds?
  4. Write the deviations from the mean to complete the table.
  5. What is the mean absolute deviation for the list of data?
  6. How many of the racers in this group scored within one mean absolute deviation of the mean?
  7. What does 22.8 represent as it relates to the list of values?
  8. How many of the players in this group scored within two mean absolute deviations of the mean?
- a.** 151                      **c.** 152.5  
**b.** 154                      **d.** 155
- | mi/h | Deviation | mi/h | Deviation |
|------|-----------|------|-----------|
| 132  |           | 154  |           |
| 141  |           | 162  |           |
| 146  |           | 166  |           |
| 149  |           | 173  |           |
| 151  |           | 176  |           |
- a.** 1                      **c.** 4  
**b.** 155                  **d.** 11.4
- a.** 8                      **c.** 6  
**b.** 7                      **d.** 5
- a.** Mean  
**b.** One mean deviation  
**c.** Two mean deviations  
**d.** None of the above
- a.** 7                      **c.** 9  
**b.** 8                      **d.** 10

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Use the list of data below to answer Questions 9–12.

**Points in a Basketball Game:**  
20, 18, 15, 12, 10, 10, 7, 4, 2, 0

Points	Deviation	Points	Deviation
20		10	
18		7	
15		4	
12		2	
10		0	

9. What is the mean?

- a. 98.0      b. 9.8      c. 980      d. 10

10. Which table shows the correct deviations from the mean?

a.

Points	Deviation	Points	Deviation
20	78	10	88
18	80	7	91
15	83	4	94
12	86	2	96
10	88	0	98

b.

Points	Deviation	Points	Deviation
20	10	10	0
18	8	7	-3
15	5	4	-6
12	2	2	-8
10	0	0	-10

c.

Points	Deviation	Points	Deviation
20	10.2	10	0.2
18	8.2	7	-2.8
15	5.2	4	-5.8
12	2.2	2	-7.8
10	0.2	0	-9.8

d.

Points	Deviation	Points	Deviation
20	29.8	10	19.8
18	27.8	7	16.8
15	24.8	4	13.8
12	21.8	2	11.8
10	19.8	0	9.8

11. Find the mean absolute deviation.

- a. 524  
b. 0.524  
c. 52.4  
d. 5.24

12. How many of the players in this group scored within one mean absolute deviation of the mean?

- a. 5  
b. 6  
c. 4  
d. 10



## Journal

1. Joli missed the lesson about solving statistical problems. Explain to Joli what a deviation from the mean is and how to find it.
2. What model might best be used to illustrate the concept of deviation from the mean for the data in Journal Question 1 above? Be sure to explain why this model works.
3. Explain the difference between the mean of the deviations from the mean and the mean absolute deviation.
4. Use imaginary data to explain what it means to be within two times the mean absolute deviations of the mean.

## Cumulative Review

In Questions 1–3, use the following data to calculate the measures:

33, 35, 38, 41, 45, 52, 55, 55, 57, 59, 65, 68, 75, 79, 83

1. What is the mean of the data set? \_\_\_\_\_
2. What is the median value in the data set? \_\_\_\_\_
3. What is the mode of the data set? \_\_\_\_\_

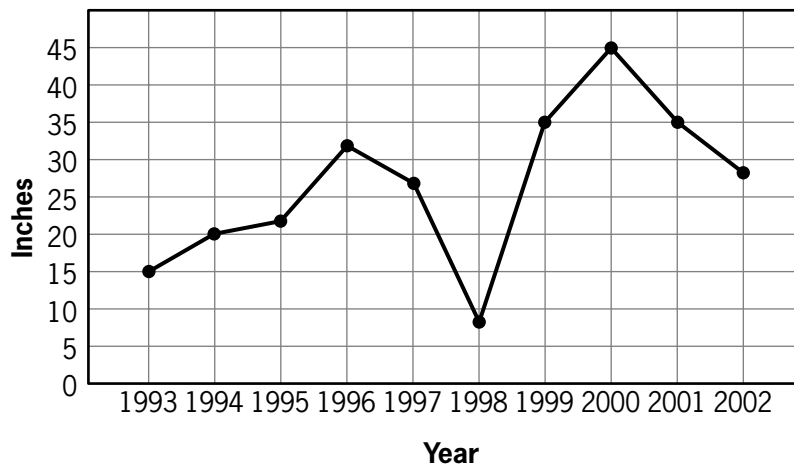
In Questions 4–6, use the following data to calculate the measures:

15, 18, 21, 22, 27, 29, 30, 32, 35, 38, 42, 44, 47, 47, 47, 50, 52, 53, 55, 56

4. What is the mean of the data set? \_\_\_\_\_
5. What is the median value in the data set? \_\_\_\_\_
6. What is the mode of the data set? \_\_\_\_\_

Use the chart to answer Questions 7–10.

Yearly Rainfall in Region A



- |  |   |
|--|---|
| <p>7. Determine what year rainfall for the region was the greatest?</p> <p>a. 1998                      c. 1999<br/>b. 2000                      d. 2002</p> | <p>8. In what two years was the amount of rainfall the same?</p> <p>a. 1998, 1999              c. 1999, 2000<br/>b. 1996, 1998              d. 1996, 2001</p>         |
| <p>9. In what year was rainfall the least?</p> <p>a. 1                              c. 4<br/>b. 155                          d. 11.4</p>                     | <p>10. In what year was the amount of rainfall between 25 and 30 inches?</p> <p>a. 8                              c. 6<br/>b. 7                              d. 5</p> |

