**Lesson 5 Skills Practice**

***Measures of Variation***

**For Exercises 1−4, find the mean absolute deviation of each set of data. Round to the nearest tenth if necessary. Describe what the mean absolute deviation represents.**

**1. 2.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Basketball Scores** | | | | |
| 41 | 37 | 50 | 38 | 46 |
| 54 | 42 | 56 | 49 | 47 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Books Read** | | | | |
| 15 | 12 | 10 | 24 | 32 |
| 18 | 23 | 19 | 30 | 27 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Bagels Sold** | | | |
| 65 | 74 | 91 | 99 |
| 104 | 93 | 62 | 92 |
| 75 | 119 | 116 | 54 |

**3. 4.**

|  |  |  |
| --- | --- | --- |
| **Miles Traveled** | | |
| 110 | 85 | 90 |
| 115 | 115 | 80 |
| 125 | 85 | 95 |

**5.** Refer to the table in Exercise 1. The standard deviation is about 6.5 points. Describe the data values that are within one standard deviation of the mean.

**6.** Refer to the table in Exercise 2. The standard deviation is about 7.5 books. Describe the data values that are within one standard deviation of the mean.

**Lesson 5 Homework Practice**

***Measures of Variation***

**For Exercises 1 and 2, find the mean absolute deviation of each set of data. Round to the nearest tenth if necessary. Describe what the mean absolute deviation represents.**

**1. 2.**

|  |  |  |
| --- | --- | --- |
| **Food Items Donated** | | |
| 38 | 46 | 52 |
| 44 | 47 | 55 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Exercise Time (min)** | | | |
| 45 | 60 | 75 | 90 |
| 100 | 75 | 90 | 105 |

**3.** Refer to the table in Exercise 1. The standard deviation is about 20.4 minutes. Describe the data values that are within one standard deviation of the mean.

|  |  |
| --- | --- |
| **Tablet Prices ($)** | |
| **Crazy for**  **Computers** | **Keyboard**  **Kings** |
| 150 | 500 |
| 200 | 550 |
| 500 | 650 |
| 800 | 850 |
| 1,000 | 900 |
| 1,200 | 1,100 |

**4.** The table shows the selling prices of various laptops at two electronic stores.

**a.** Find the mean absolute deviation for each set of data. Round to the nearest hundredth.

**b.** Write a sentence comparing their variation.

**Lesson 5 Problem-Solving Practice**

***Measures of Variation***

The table shows the number of seventh and eighth graders on the Honor Roll each grading period.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Grading**  **Period 1** | **Grading**  **Period 2** | **Grading**  **Period 3** | **Grading**  **Period 4** | **Grading**  **Period 5** | **Grading**  **Period 6** |
| **Seventh**  **Graders** | 58 | 77 | 80 | 65 | 81 | 65 |
| **Eighth**  **Graders** | 70 | 78 | 74 | 83 | 79 | 72 |

**1.** Find the mean absolute deviation of the number of seventh graders on the Honor Roll. Round to the nearest tenth. Describe what the mean absolute deviation means.

**2.** Find the mean absolute deviation of the number of eighth graders on the Honor Roll. Describe what the mean absolute deviation means.

**3.** Which students had less variation? Justify your answer.

**4.** The standard deviation of seventh graders on the Honor Roll is about 9.6. The standard deviation of eighth graders on the Honor Roll is about 4.9. Describe how this information supports your answer to Exercise 3.

**Lesson 5 Extra Practice**

***Measures of Variation***

**Find the mean absolute deviation of each set of data. Round to the nearest tenth if necessary. Describe what the mean absolute deviation represents.**

|  |  |  |  |
| --- | --- | --- | --- |
| **1.** | **5.6; Sample answer: The average distance each data value is from the mean is 5.6 points.** | **2.** | **28.4; Sample answer: The average distance each data value is from the mean is 28.4 minutes.** |
|  |  |  |  |
| **3.** | **6.5; Sample answer: The average distance each data value is from the mean is 6.5 miles per hour.** | **4.** | **1.4; Sample answer: The average distance each data value is from the mean is 1.4 hours.** |
|  |  |  |  |
| **5.** | **1.7; Sample answer: The average distance each data value is from the mean is 1.7 inches.** | **6.** | **2.9; Sample answer: The average distance each data value is from the mean is $2.90.** |