11-3 Additional Practice

Data Distributions

1. Determine the mean, standard deviation, and five-number summary for each data set. Round to the nearest tenth if necessary.

   a. 98, 87, 79, 82, 101, 99, 97, 97, 102, 91, 93

   mean: **93.3**   standard deviation: **7.3**

   five-number summary: minimum: **79**   1st quartile: **87**

   median: **97**   3rd quartile: **99**   maximum: **102**

   b. 3.2, 3.1, 4.5, 5.0, 4.1, 2.9, 1.8, 0.8, 2.2, 2.3, 3.1, 3.0

   mean: **3**   standard deviation: **1.1**

   five-number summary: minimum: **0.8**   1st quartile: **2.3**

   median: **3.1**   3rd quartile: **3.7**   maximum: **5.0**

2. Describe the shape of the distribution and determine which measures of center and spread best represent the data.

1,022	1,065	1,287	1,385	1,499	1,499	1,298
1,109	1,067	1,384	1,499	1,032	1,222	1,045

   skewed left; median; interquartile range

3. Every other week, a horticulturist sprays fertilizer on the roses in one section of a garden. Do you expect the height of the roses in the garden to be uniformly distributed, normally distributed, skewed left, or skewed right? Explain.
   skewed left; She sprays only some of the roses. You might expect the sprayed roses to grow more.

4. Describe the shape of the distribution of a set of data where the median and mean are the same. How would the median and mean compare if the data were skewed left?
   Symmetrical distribution; the mean would be less than the median.

5. The ages of students in a gymnastics class are 12, 15, 17, 9, 7, 8, 15, 10, 13, 6, 5, 7, 13, 10, 7, 9, 5, 6, 7, 7, and 4.

   a. Determine the mean, median, and standard deviation of the ages of the students. Round to the nearest hundredth.

   mean: **9.14**   median: **8**   standard deviation: **3.62**

   b. Describe the shape of the distribution of ages: **skewed right**