MODULE 9 One-Variable Data Distributions

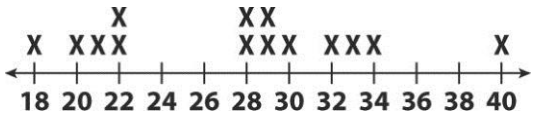
LESSON 9-1

Practice and Problem Solving: A/B

1. Mean: 24.5; median: 25; range: 12
2. Mean: 8.6; median: 9; range: 8
3. Mean: 84; median: 85.5; range: 21
4. Mean: 1.3; median: 1.2; range: 2.0
5. Mean: 40; median: 39; range: 14; interquartile range: 7
6. Mean: 43; median: 43.5; range: 43; interquartile range: 36
7. Club A: 4.5; Club B: 16.8
8. Possible answer: Club A has a slightly lower average age in its club. Both its mean and median ages are lower than those of Club B. The ages are much more spread out in Club B. Its range, interquartile range, and standard deviation are each three times as great or more as the corresponding statistics for Club A.
9. Possible answer: Club A has the lower mean and median age, and so it could claim to be the “younger” club. Club B has three of its eight members in their 20s, while Club A has no member below age 34. So, Club B could also make the same claim.

LESSON 9-2

Practice and Problem Solving: A/B

1. 100 is not an outlier because Q3 = 85 and IQR = 16.
   Then $100 < Q3 + 1.5(IQR)$.
2. 100 is an outlier because Q3 = 85 and IQR = 9.
   Then $100 > Q3 + 1.5(IQR)$
3. mean = 27.57; median = 28.5
4. range = 22; interquartile range = 10
5. 

6. Possible answer: The dot plot makes it appear as if 40 is an outlier. However, since Q3 = 32 and IQR = 10, 40 is not an outlier since $40 < 32 + 1.5(10)$
7. Possible answer: The dot plot does not help predict. It makes it appear that there are two “zones” where this player tends to hit home runs: from 18 to 22 and from 28 to 34. The table may help predict. By showing the data over time, it makes clear that the player’s home run totals have
   fallen back during the past two seasons to the 18–22 zone.
8. The mean would decrease to 26.4 and the median would decrease to 28. The range would increase to 30 and the interquartile range would increase to 11.