

1.
 - a. \$16.18
 - b. \$13.99
 - c. $\$16.18 > \13.99 , so the distribution of prices of water bottle varieties at this store is skewed to the right.
 - d. The price of a variety of water bottle at this store typically varies by 7.25 from the mean price of 16.18.

2.
 - a. 43.6 hours
 - b. The number of hours worked typically varies by about 9.86 hours from the mean of 43.6 hours.

3.
 - a. The means are the same (50).
 - b. The medians are the same (50).
 - c. The standard deviation of Set A is larger than the standard deviation of Set B because the values in Set A are farther away from the mean, on average, than the values in Set B.

4.
 - a. stay the same; the mean of the original set is 20, so adding a value that is equal to the mean will not change the mean.
 - b. increase; the median of the original set is 18 , the new median value is the average of the two middle values $= \frac{(18 + 20)}{2} = 19$
 - c. stay the same; neither the maximum nor minimum value has changed, so the range will not change.
 - d. decrease; since the new value has a distance of 0 from the mean, the approximate average distance from the mean will decrease.

5. a. The median will be less than the mean since the distribution is skewed right.
 b. The median would better represent the typical commute time because the distribution is skewed to the right. The potential outliers at 60 minutes and 70 minutes have a bigger influence on the mean whereas the median is more resistant to outliers.
 c. The commute times for the 40 students typically vary by about 14.4 minutes from the mean of 14.2 minutes.

6. The distribution of birth rates is unimodal and roughly symmetric with a mean of 9.613 births per 1,000 people and a standard deviation of 1.593 births per 1,000 people. There is a gap between 13 and 15.5 births per 1,000 people and one possible outlier in the interval from 15.5 up to 16 births per 1,000 people.

7. D

8. C