6-4: Make MoreComparative Inferences About Populations

1. Sample: Dot plots show the shape of data sets and can help you see measures of center, such as mean and median, and spread, such as range. Dot plots and other data displays can be used to visually compare data. Measures of center and variability can be used to quantitatively compare data sets.

2. Sample answer: You can use data from random samples of two populations to compare measures of center and variability. This can help you make inferences about each population that you can then use to make predictions.

3. Sample answer: The data from the set with the larger MAD has greater variability than the data set with the smaller MAD. Because of the variation, the median may represent the data better.

4. Week 1 mean = 5; Week 2 mean = 7

5. a. Week 2
    b. Sample answer: The team is improving and playing more consistently because the mean increased and the range decreased.

6. 1; 2; 2; 2

7. 27.5
    268; 24.4
    1

8. There is not much difference between the two sets of marbles because the mean mass in Data Set 1 is slightly less than the mean in Data Set 2. The MAD of 2 means that both sets of marbles have a similar distribution of data.

9. Sample answer: Most of Brianna's classmates carry more pencils than erasers in their bags.

10. a. Median and IQR; Sample answer: The outlier for Machine Y affects the mean and range.

    b. No; Sample answer: The data show the median speeds are equal for both machines. The mean should not be used because there is an outlier in the data for Machine Y.

11. C