Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period:\_\_\_\_\_\_

1. Consider the mode, median, and mean. Which average represents the middle value of a data distribution? Which average represents the most frequent value of a distribution? Which average takes all the specific values into account?
2. What symbol is used for the arithmetic mean when it is a sample statistic?
3. Consider the following types of data that were obtainded from a random sample of 49 credit card accounts. Identify all the averages (mean, median, or mode) that can be used to summarize the data.
   1. Outstanding balance on each account.
   2. Name of credit card (e.g. MasterCard, Visa, American Express, etc.)
   3. Dollar amount due on next payment.
4. Consider the numbers: 2, 3, 4, 5, 5
   1. Compute the mode, median, and mean.
   2. If the numbers represented codes for the colors of T-shirts ordered from a catalog, which average(s) would make sense?
   3. If the numbers represented one-way mileages for trails to different lakes, which average(s) would make sense?
   4. Suppose the numbers represent survey responses from 1 to 5, with 1 = disagree strongly, 2 = disagree, 3 = agree, 4 = agree strongly, 5 = agree very strongly. Which averages make sense?
5. In this problem, we explore the effect on the mean, median, and mean of adding the same number to each data value. Consider the data set 2, 2, 3, 6, 10.
   1. Compute the mode, median, and mean.
   2. Add 5 to each of the data values compute the mode, median, and mean.
   3. Compare the results of (a) and (b). In general, how do you think the mode, median, and mean are affected when the same constant is added to each data value in a set?
   4. Multiply each data value by 5. Compute the mode, median, and mean.
   5. Compare the results of (a) and (d). In general, how do you think the mode, median, and mean are affected when each data value in a set is multiplied by the same constant?
6. Consider a data set of 15 distinct measurements with mean A and median B.
   1. If the highest number were increased, what would be the effect on the median and mean? Explain.
7. How hot does it get in Death Valley? The following data are taken from a study conducted by the National Park System, of which Death Valley is a unit. The ground temperatures were taken from May to November in the vicinity of Furnace Creek.

146 152 168 174 180 178 179

180 178 178 168 165 152 144

Compute the mean, median, and mode for the ground temperatures.

1. How large is a wolf pack? The following information is from a random sample of winter wolf packs in regions of Alaska, Minnesota, Michigan, Wisconsin, Canada, and Finland.

13 10 7 5 7 7 2 4 3

2 3 15 4 4 2 8 7 8

Compute the mean, median, and mode for the size of the wolf packs.

1. The Grand Canyon and the Colorado River are beautiful, rugged, and sometimes dangerous. The number of visitor injuries at different landing points for commercial boat trips down the Colorado River in both the Upper and Lower Grand Canyon.

**Upper Canyon: Number of Injuries per Landing Point Between North Canyon and Phantom Ranch**

2 3 1 1 3 4 5 9 3 1 3

**Lower Canyon: Number of Injuries per Landing Point Between Bright Angel and Lava Falls**

8 1 1 0 6 7 2 14 3 0 1 13 2 1

1. Compute the mean, median, and mode for injuries per landing point in the Upper Canyon.
2. Compute the mean, median, and mode for injuries per landing point in the Lower Canyon.
3. Compare the results of parts (a) and (b).