Practice: Data Displays, Measures of Center & Spread

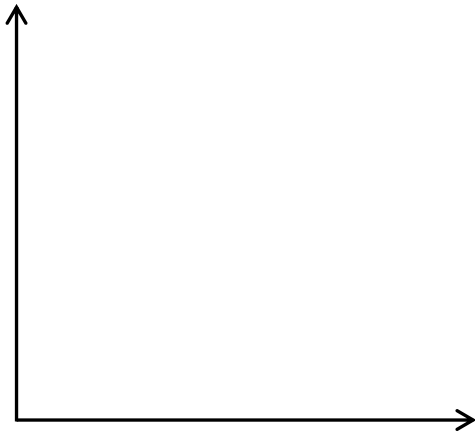1) Listed below are the ages of 24 people that were exercising at a fitness center:

13, 14, 16, 16, 18, 19, 21, 21, 21, 22, 24, 24, 25, 27, 27, 30, 31, 35, 40, 42, 47, 51, 53, 66

a) Create a stem-and-leaf display for the data.

b) Create a box-and-whisker plot for the data.

c) Create a dot plot for the data.

d) Create a histogram for the data using groups of 10.

e Create a histogram for the data using groups of 5.

2)   a) Write one advantage and one disadvantage for the stem-and-leaf display.

b) Write one advantage and one disadvantage for the box-and-whisker plot.

c) Write one advantage and one disadvantage for the dot plot.

d) Write one advantage and one disadvantage for the histogram.

e) Compare the two histograms. Which one do you prefer and why?

3) Listed below are the numbers of letters in the last names of a 22-person classroom.

5, 8, 3, 8, 8, 5, 7, 4, 7, 5, 7, 11, 7, 8, 8, 8, 6, 7, 6, 5, 7, 4

a) Find the mean.   b) Find the median.   c) Find the mode.   d) Find the range.
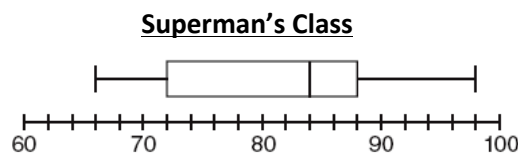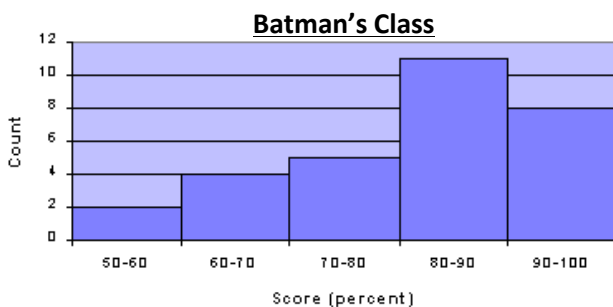
e) Find the interquartile range.   f) The mean is lower than the median. Why do you think this is?

4) Listed are the number of points scored by a point guard in 5 recent basketball games: **11, 9, 8, 46, 11**
   a) Find the mean, median, and mode. Which of these are good representations of the "typical" scoring output of this point guard? Why? Which of these are not? Why?

5) 10 Girl Scouts were selling Girl Scout cookies. They kept track of how many boxes each of them had sold, and as of Monday, Debbie had sold the most boxes. On Tuesday, Debbie sold 20 more boxes, while none of the other Girl Scouts sold any more. Which of these measures **changed** after Debbie sold her 20 extra boxes? Which stayed the same? Explain your reasoning for each: **Mean, Median, Mode, Range, Interquartile Range**

6) The box plot and histogram each show the exam scores of different 30-person classes. Which class do you think did **better** on the exam? Use the information from the data displays to make a <u>convincing</u> argument.

7) Try to come up with your own set of data that fits all of the following requirements:
   - There are 7 data values total
   - The mean, median, and range are all 10

8) Try to come up with your own set of data that fits all of the following requirements:
   - There are 6 data values total
   - The mean is 20
   - The median is 16
   - The range is 20