Instructions: *For the **data sets 1-3** (follow data set 4's directions) given below you will do the following:*

*1)   Give the **point estimate for the population proportion or mean** whichever is appropriate (label it appropriately)*

*2)   Give the **standard deviation of the sample** if the data is quantitative <u>or</u> if the data is qualitative (binomial) **state x, n and q-hat**. (label appropriately)*

*3)   Give a **95% confidence interval** for the population **mean <u>or</u> proportion** whichever is appropriate*

a)   You will clearly state the critical value noting it correctly

b)   You will show the computation for the margin of error

c)   You will show the interval using the method where the population proportion or mean is in the middle (use the correct population notation) of the low and high values

*4)   <u>If</u> a quantitative data set is given <u>and</u> the standard deviation of the population is unknown, you will give a **90% confidence interval for the population standard deviation***

a)   You will clearly state the critical values noting correctly

b)   You will show the interval with the population standard deviation listed between two values.

c)   Note what assumptions you need to make

Data Set #1: The daily intake of milk for milk (in ounces) are known to be normally distributed. The following is a data set of the intake of 10 randomly selected individuals:

19.9, 20.2, 18.7, 31.5, 13.8, 12.6, 15.2, 31.4, 13.4, 24.5

Data Set #2: An advocate of Obama Care in a small sized city wished to find get support for the program by showing that Obama Care is needed. The advocate single-handedly interviewed 84 people and asked them, "Do you have health care?" Of those interviewed, 62 answered that they do have health care.

Data Set #3: The following data represents the reported heights (in inches) of 15 women. Women's heights are known to be normally distributed with a standard deviation of 2.5 inches.

65.5, 63, 66, 62, 68, 61.5, 62, 65, 66, 62, 64, 66.5, 65, 63, 64

Data Set #4: In the US, men's heights are known to be normally distributed with a standard deviation of 2.8 inches. A sample of 16 men yielded a mean height of 69.7 inches. Find a 80% confidence interval for the average difference between men's and women's heights. Use the data in Data Set #3 along with summary information provided here.