Math 1342
Elementary Statistics
Lab Exercise # 9

Name: _____ Date:_____

Section: _____ Semester: _____

Grade: _____

Attach computer printouts to this sheet and submit your assignment to your instructor.

Use the TI-83 to answer the following questions:

9a. Find a 90% confidence interval for a sample size of 75, a mean of 790, and a standard deviation of 98.6.

9b. Find a 85% confidence interval for a sample size of 18, a mean of 78.9, and a standard deviation of 12.67.

9c. Find a 95% confidence interval for p if 560 subjects were successful in 1234 trials.

9d. How many more subjects must be sampled to be 95% sure that the sample mean is within 0.25 of the population mean if a random sample of 35 subjects has a standard deviation of 2.3?

9e. If no preliminary study is made to estimate p, how large of a sample is necessary to be 90% sure that a point estimate of p will be within 0.08 of p?

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*****If in doubt, Print it out!!*****

9a.) These problems are dealing with the Confidence Interval Formulas that are also in your text. Refer to them if needed. Since the sample size for this problem is so large the TI-83 refers to sample sizes $n \geq 30$ as Z. Press [STAT], move over to TESTS, then scroll down to 7: ZInterval. Press [ENTER]. Move cursor to Stats, press [ENTER] to select it. Then press the arrow to move down and enter the given values. When done move cursor over Calculate and press [ENTER]. Print.

9b.) Repeat all the steps from 9a. except that you will use the TInterval since $n < 30$

9c.) Since $n \geq 30$, you will use something with a Z. Since we are only dealing with one object, the TI-83 uses the 1-PropZInt which again is the in the [STAT] , TEST menu. Enter the number of subjects as *x*, and the number of trials for *n*, and the given confidence level in decimal form. Calculate the data. Print.

9d.) Refer to your text for the sample size for estimation formulas. Do not forget to use the Confidence Level and their Critical Value charts. Print results. Round that answer up and subtract the random sample from the previous answer you calculated. Print. (You can fit both answers on the home screen and only print one screen if you wish.)

9e.) Refer to your text for the sample size for estimation formulas. Make sure to use the one without a preliminary estimate for *p*. Do not forget to use the Confidence Level and their Critical Value charts. Print results.