Name:_____

Statistics Chapter 6.1-6.4 Review

1. Determine the critical value for 96% confidence level with a sample size of 80?

2. Determine the critical value for 98% confidence level with a sample size of 25?

3. A confidence interval is \$16,142 < μ < \$36,312. Find the margin of error and sample mean?

4. A confidence interval is 2.1 < μ < 5.0. Find the margin of error and sample mean?

5. A random sample of 50 students has a grade point average of 2. 17 with a standard deviation of 0.75. Find the margin of error and determine the confidence interval if the confidence interval is 90%?

6. A random sample of 40 car salesmen had a mean annual income \$49,500 and a standard deviation of \$2,750. Determine the margin of error with 95% confidence?

7. A random sample of 50 automobiles that were 10 years old had a sample mean of 113,500 miles and s = 5,200 miles. Construct a confidence interval to find the population mean with 96% confidence.

8. An insurance company wants information about the average cost to repair a car from an auto accident. A simple random sample of 28 accidents result in a sample mean of \$6,525 and s =\$1,742. Assume the sample is drawn from a normally distributed population, estimate the population mean interval with 99% confidence.

9. A study was conducted to estimate how much people spend on Christmas. Twenty randomly selected customers have a distribution that appears to be normal with a mean of $872 and a standard deviation of $112. Construct a 98% confidence interval to represent the population mean.

10. You are trying to determine the average age of the automobiles for the student body at GHS. If you use your statistics class of 22 students, what would be the population mean for a 90% confidence interval be? The average age is 8 years old with a standard deviation of 3.6 years.

11. A student wants to determine the average cost per hour a student makes. How large of sample must she select if she desires to be 95% confident that the true mean is within $0.50 of the sample mean? The standard deviation of the cost per hour is $0.45.

12. A school is trying to estimate the number of days students are sick per year. A previous study indicated that the standard deviation was 3.6 days. How large of a sample must be selected if the school wants to be 99% confident that the true mean differs from the sample no more than 1 day?

13. A company is trying to estimate the mean life of their batteries so that they are off no more than 1/2 hours. If the batteries have a standard deviation 1.27 hours and they want a confidence interval of 95%, how many batteries do they need to use in their study?

14. Use the range rule of thumb to make a rough estimate of the standard deviation to determine the sample size that would correspond with a 99% confidence interval and a margin of error of $2, 500 to determine the price of a 2012 Ford F-150 pickup truck. You have found prices to range from $48,670 to $34,918.

15. Using a graphing calculator, create a 98% confidence interval for the following data:
    98, 76 , 88, 92, 92, 71, 96, 84, 98, 88, 75, 100, 90, 90, 96, 94