1. Do one of the following as appropriate. a) Find the critical value za/2, b) find the critical value ta/2, c) State that neither the normal nor the t distribution applies. Confidence level 95%; n=20; ơ is unknown; population appears to be normally distributed.
2. Given: The paired sample data of the age and alcohol consumption of men result in a linear correlation coefficient very close to 0.

Conclusion: Older men tend to consume more alcohol than younger men.

Describe the error in the stated conclusion.

1. Use the given information to find the minimum sample size required to estimate an unknown population mean µ.

How many adults must be randomly selected to estimate the mean FICO (credit rating) score of working adults in a country? We want 90% confidence that the sample mean is within 3 points of the population mean, and the population standard deviation is 67?

The minimum sample size required is\_\_\_adults.

1. In a study designed to the test the effectiveness of magnets for treating back pain, 40 patients were given a treatment with magnets and also a sham treatment without magnets. Pain was measured using a scale from 0(no pain) to 100 (extreme pain). After given the magnets treatments, the 40 patients had pain scores with a mean of 6.0 and a standard deviation of 2.6. After being given the sham treatments the 40 patients had pain scores with a mean of 7.8 and a standard deviation of 2.2.
2. Construct the 90% confidence interval estimate of the mean pain score for patients given magnet treatment.

What is the confidence interval estimate of the population mean µ?

\_\_\_< µ<\_\_\_\_