PROBLEM # 2

A study was designed to compare the effects of drug A and drug B on bone mineral density (BMD). One of the outcome measures was the percent increase in BMD at 12 months. Drug A produced a significantly higher percent change (4.8 percent) in BMD than drug B (2.8) with a p value < .001.

a) What is the variable of interest?

b) Is the parameter of interest a mean, the difference between two means (independent samples), a mean difference (paired data), a proportion, or the difference between two populations (independent samples)?

c) What is the sampled population?

d) What is the target population?

e) What are the null and alternative hypotheses?

f) Is the alternative one-sided (left tail), one-sided (right tail), or two-sided?

g) What type I and type II errors are possible?

h) Do you think the null hypothesis was rejected? Explain why or why not.

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PROBLEM # 2

In a study which investigated suicidal behavior among adolescents. In addition to impulsivity, the researchers studied hopelessness among the 33 subjects in the suicidal group and the 32 subjects in the non-suicidal group. The means for the two groups on the hopelessness scale were 11.6 and 5.2 respectively, and the

t value for the test was 5.13.

a) What is the variable of interest?

b) Is the parameter of interest a mean, the difference between two means (independent samples), a mean difference (paired data), a proportion, or the difference between two populations (independent samples)?

c) What is the sampled population?

d) What is the target population?

e) What are the null and alternative hypotheses?

f) Is the alternative one-sided (left tail), one-sided (right tail), or two-sided?

g) What type I and type II errors are possible?

h) Do you think the null hypothesis was rejected? Explain why or why not.