AP Statistics

Ch. 9

Some of the “little stuff” you need to know.

1. You have a matched pairs test that currently has a alpha of .04 and power of .88. You run another test that has the same sample size and power has increased to .93. Alpha must now be (less than, greater than, equal to) .04

Why???:

2. You have performed two tailed t-test for means and have a t-statistic is 1.65 for n=13 and alpha = .05. What is your p-value? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Will the null be rejected?

3. As power increases, the probability of a type one error \_\_\_\_\_\_\_\_\_\_\_\_, and the probability of a type II error \_\_\_\_\_\_\_\_\_\_\_\_

4. You are running a one proportion z test. The test is one tailed on the right side. You get a p-value of .03. What is your z-statistic? \_\_\_\_\_\_\_\_\_\_\_\_\_\_ What is your critical value at an alpha of .01

5. Tell if the following would require a matched pairs test.

a) You are looking at the scores of Ms. Sims AP Statistics class and Mr. Sever’s AP Statistics class. You think the scores in Ms. Sims may be higher.

b) You are looking at the percentage of students who vape this year as opposed to last. You think the proportion has gone up in the last year.

c) You collect blood pressure data from volunteers who are in a Yoga class. You take the blood pressure before and after Yoga.

6. You are running a t-test for means with alpha .06 and it is a 2 tailed test. If the sample size is 19 what would be your upper critical value?

7. You are running a one-tailed matched pairs test on the positive side. If x-bar is 12, s=4.2 and n=9, is your statistic in the rejection region.

8. Which of the following are equivalent

a) One tailed test for mean vs T confidence interval b) Two tailed test for proportion vs One prop z-interval

c) 2 tailed matched pairs test vs T confidence interval d) One tailed matched pairs test vs T confidence interval.