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Assignments from the E-Text

Prepare answers to the following assignments from Chapter 11 of the e-text, *Statistical Techniques in Business Economics.* Show all work and formulas used. You must include the problem statement. All work must be in included in one MSWord document. If MSExcel is used, cut and paste the results into the MSWord document. Only one document will be accepted for weekly text assignments.

Exercises: 2, 4, 8, 14, and 18

Use MSExcel® or calculator computation

2. A sample of 65 observations is selected from one population. The sample mean is 2.67 and the sample standard deviation is 0.75. A sample of 50 observation is selected from a second population. The sample mean is 2.59 and the sample standard deviation is 0.66. Conduct the following test of hypothesis using the .08 significance level.

$Ho: \mu_1 \leq \mu_2$
$H_1: \mu_1 > \mu_2$

a. Is this a one-tail or a two tailed test?
b. State the decision rule.
c. Compute the value of the test statistic
d. What is your decision regarding Ho?
e. What is the P-value?

4. As part of a study of corporate employees, the Director of Human recourses for PNC, Inc. Wants to compare the distance traveled to work by employees at their office in downtown Cincinnati with the distance for those in downtown Pittsburg. A sample of 35 Cincinnati employees showed they travel a mean of 370 miles per month, with a standard deviation of 30 miles per month. A sample of 40 Pittsburgh employees sow they travel a mean of 380 miles per month, with a standard deviation of 26 miles per month. At the .05 significance level, is there a diffence in the mean number of miles traveled per month between Cincinnati and Pittsburgh employees? Use the five-step hypothesis-testing procedure.

8. The null and alternate hypotheses are:

$H_o: \pi^1 = \pi^2$
$H^1: \pi^1 \neq \pi^2$
A sample of 200 observations from the first population indicates that X^1 is 170. A Samples of 150 observations from the second population revealed X^2 to be 110. Use the .05 significance level to he test the hypothesis.
A. State the decision rule.
B. Compute the pooled proportion
C. Compute the value of the test statistic.
D. What is your decision regarding the null hypothesis?

14. The null hypothesis and alternative hypothesis

$H_o: \mu^1 = \mu^2$
$H^1: \mu^1 \neq \mu^2$

 A random sample of 15 observation from the first population revealed a sample mean of 350 and a sample standard deviation of 12. A random sample of 17 observations from the second population revealed a sample mean of 342 and a sample standard deviation of 15. At the .10 significance level, is there a difference in the population means?
A. State the decision rule
B. compute the pooled estimate of the population variance
C. Compute the test statistic
D. State your decision about the null hypothesis
E. Estimate the P-value

Use the five step-hypothesis testing procedure for 18

18. The Tampa Bay area chamber of commerce wanted to know whether the mean weekly salary of nurses was larger that that of school teachers. To investigate, they collected the following information on the amounts earned last week by a sample of school teachers and nurses.

School teachers($) 845,826,827,875,784,809,802,820,829,830,842,832

Nurses($) 841,890,821,771,850,859,825,829

Is it reasonable to conclude that the mean weekly salary of nurses is higher? Use the .01 significance level. What is the P-value?