Complete the following textbook exercises:

2, 8, and 18

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

H0 : 1 - 2  0

H1 : 1 - 2 > 0

1. Is this a one-tailed or two-tailed test?
2. State the decision rule.
3. Compute the value of the test statistic.
4. What is your decision regarding H0?
5. What is the *p*-value? Interpret the *p*-value.

8. The null and alternative hypotheses are:

H0 : P1 – P2 = 0

H1 : P1 – P2  0

A sample of 200 observations from the first population indicated that X1 is 170. A sample of 150 observations from the second population revealed X2 to be 110. Use the .05 significance level to test the hypothesis.

1. State the decision rule.
2. Compute the pooled proportion.
3. Compute the vale of the test statistic.
4. What is your decision regarding the null hypothesis?
5. Determine and interpret the *p*-value.

18. The Milton Area Chamber of Commerce wanted to know whether the mean weekly salary of nurses was larger than that of schoolteachers. To investigate, it collected the following information on the amounts earned last week by sample if school teachers and nurses.

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? Interpret the *p*-value.