

Name: _____ Math 130 Day 17 Lecture Worksheet

Date: _____ Section 10.2: Hypothesis Tests for a Population Proportion

Ex 1 (Sec. 10.2 Hw #21 pg. 494): **Taught Enough Math?** In 1994, 52% of parents of children in high school felt it was a serious problem that high school students were not being taught enough math and science. A recent survey found that 256 of 800 parents of children in high school felt it was a serious problem that high school students were not being taught enough math and science. Do parents feel differently than they did in 1994?

- a) Perform the appropriate hypothesis test using the rejection region method at the $\alpha = 0.05$ level of significance.
- b) Perform the appropriate hypothesis test using the P-value method at the $\alpha = 0.05$ level of significance.
- c) What is the meaning of the $\alpha = 0.05$ level of significance.

Ex 2: A claim has been made that more than 50% of Rio Hondo students have a job. To test the claim, 47 Rio Hondo students were polled and asked if they have a job. Of the 47 students polled, 31 said that they do have a job.

- a) Use the P-value method to test the claim that more than 50% of Rio Hondo students have a job at the $\alpha = 0.03$ significance level.
- b) Use the rejection region method to test the claim that more than 50% of Rio Hondo students have a job at the $\alpha = 0.03$ significance level.
- c) What is the meaning of the $\alpha = 0.03$ level of significance.

Ex 3 (Sec. 10.2 Hw #20 pg. 493): Eating Together In December 2001, 38% of adults with children under the age of 18 reported that their family ate dinner together 7 nights a week. In a recent poll, 403 of 1122 adults with children under the age of 18 reported that their family ate dinner together 7 nights a week. Has the proportion of families with children under the age of 18 who eat dinner together 7 nights a week decreased?

- a) Use the P-value method to test the appropriate claim at the $\alpha = 0.08$ significance level.
- b) Use the rejection region method to test the appropriate claim at the $\alpha = 0.08$ significance level.
- c) What is the meaning of the $\alpha = 0.08$ level of significance.