Hypothesis Testing Worksheet
Math 146, Redmon

#1 – 3. Identify which of the type of hypothesis test should be used. State the hypotheses. **DO NOT TEST.**

1.   A recent study found that, at most, 32% of college students have seen a movie in the past month. In a sample of 100 college students, 38 had seen a movie in the past month. Should the study's claim be rejected? Test at the .05 significance level.

2.   A researcher wishes to compare mean salaries in Bellevue and Mercer Island to see if there is a significant difference. The results of the study are below. Is there enough evidence to reject the claim that the average income in both locations is the same? Test at the .01 significance level.

Bellevue	**Mercer Island**
$\overline{X}_1 = \$63{,}255$	$\overline{X}_1 = \$59{,}102$
$s_1 = \$5602$	$s_2 = \$4731$
$n_1 = 35$	$n_2 = 40$

3.   A person claims that the average price of a small popcorn at the movies is $3.00. A sample of 5 theaters had an average price of $3.70 with a sample standard deviation of $0.30. At $\alpha = .05$ is the person's claim correct?

4.   Using the p-value method, conduct a complete hypothesis test for #1 above.

5.   Using the traditional method, test the hypotheses in #3.

6. John claims he studies more than the suggested average of 2 hours per day. After collecting and analyzing some data, he finds a p-value for his test to be .032. Answer the following:

a) State the hypotheses for his test.

b) Would be the null hypothesis be rejected for $\alpha = .05$?

c) Would the null hypothesis be rejected for $\alpha = .01$?

d) After gathering more data, he re-computes the p-value to be .0001. Based on this, does he study significantly more than 2 hours per day? Why or why not?