Name:_____ Math 130 Day 21 Lecture Worksheet

Date: Section 11.4: Hypothesis Tests for 2 Population Standard Deviations

Ex 1 (Sec. 11.4, Hw #15, pg. 574): **Elapsed Time to Earn a Bachelor's Degree** Clifford Adelman, a researcher with the Department of Education, followed a cohort of students who graduated from high school in 1992. He monitored the progress the students made toward completing a bachelor's degree. One aspect of his research was to compare students who first attended a community college to those who immediately attended and remained at a 4-year institution. The sample standard deviation time to complete a bachelor's degree of the 268 students who transferred to a 4-year school after attending community college was 1.162. The sample standard deviation time to complete a bachelor's degree of the 1145 students who immediately attended and remained at a 4-year institution was 1.015. Assuming the time to earn a bachelor's degree is normally distributed, does the evidence suggest the standard deviation time to earn a bachelor's degree is different between the two groups? Use the $\alpha = 0.05$ level of significance.

a) Use the P-value method

b) Use the rejection region method