Identify the null hypothesis, alternative hypothesis, test statistic, P–value, conclusion about the null hypothesis, and final conclusion that addresses the original claim.

1) In a survey of SRJC students found that 30 out of 267 would consider commuting to school on a bike if a new 101 freeway overcrossing is built with access to the bike route along the train tracks. At the 0.01 significance level, test the claim that more than 10% will consider riding a bike if the overcrossing is built.

(4 Points) State the claim, null, and alternate hypothesis. Graph and shade the critical region. Label your axes. Find the critical value.

(4 Points) Find the point estimate of the population proportion and it's test statistic using the formula and checking your answer with your calculator. Label these on your graph above.

(4 Points) Find the P–value and explain the meaning of the P–value. Shade a new graph showing the area equal to the p–value.

(4 Points)   Find you initial conclusion. Clearly state your final conclusion.

(5 Points) If the sample instead found that 40 people would consider riding a bike if the overcrossing is built. . The p–value will become .0033. How does this change your final conclusion. Clearly state the new final conclusion using this data.

Assume that a simple random sample has been selected from a normally distributed population and test the given claim. Identify the null and alternative hypotheses, test statistic, critical value(s) and P–value, and state the final conclusion that addresses the original claim.

2) In the United States the average coffee driker has 3.1 cups (using 6 ounce cups) or 19 ounces of coffee per day. Among the 111 coffee drinking students at SRJC surveyed by the class, the average was 11.7 ounces and the standard deviation was 7.9. At the .05 level of significance test the claim that mean number of ounces consumed by SRJC students is less than the national average of 19 ounces.

a) Identify the claim, null hypothesis, H_0, alternative hypothesis, H_1.

b) Draw and shade the critical region.

c) Find and label the critical value,   CV: _____

d) Find the point estimate and its Test Statistic. Show the formula and the values that you used.
Graph the test statistic and the Point Estimate of the population mean on the graph above.
Find the P–value and explain its meaning.

PE:_____

TS:_____

P–Value:_____

e) Make initial conclusion about the null hypothesis, then state final conclusion that addresses the original claim.