Hypothesis Tests, Worksheet #4 Name _____

A doctor claims that 17 year olds have an average body temperature that is higher than the commonly accepted average human temperature of 98.6 degrees Fahrenheit. A simple random statistical sample of 25 people, each of age 17, is selected. The average temperature of the 17 year olds is found to be 98.9 degrees, with standard deviation of 0.6 degrees. Is this sufficient evidence to support the doctor's claim?

1. State the Type of Hypothesis or the TI calculator function to be used (and any settings):

2. State the Null and Alternative Hypotheses:
   H_0:

   H_a:

3. List all the data entered into your calculator to find the test statistic, or state the formula used if solving by hand.

4. Provide the output of the calculator. If solving by hand, find the test statistic and convert this value to a P-value using your calculator or the table.

5. Graph the critical values and the test statistic on the normal distribution.

6. What is your conclusion based on the critical values/test statistic, or the significance levels/p-values? Do you reject the null or fail to reject the null?

7. Restate your conclusion in the context of the problem (circle your choice):

   There IS/IS NOT sufficient evidence that the mean body temperature of 17-year-olds IS/IS NOT higher than the accepted mean of 98.6 degrees.