9.2 Worksheet 2

Significance Tests with Means

**★I can identify the mean parameter that I am interested in based on sample data★**

**★I can determine if a test is one sided or two sided★**

**★I can compute the value of the test and the p-value when conditions have been met★**

**★I can compare the p-value to α to make a decision about the null hypothesis★**

Do the following significance tests. Show ALL Steps!! (PHCTAC)

1. The owner of a local chain of grocery stores is always trying to minimize the time it takes her customers to check out. In the past, she has conducted many studies of the checkout time and they have displayed a normal distribution with a mean time of 12 minutes and standard deviation of 2.3 minutes. She has implemented a new schedule for cashiers in hopes of reducing the mean checkout time. A random sample of 32 customers visiting her store this week resulted in a mean of 10.9 minutes. Is this significant evidence that the mean checkout time decreased?
2. The mean SAT math score is 650 with a standard deviation of 50. The mean SAT math score in a random sample of 30 HHS students is 680. Is this significant evidence to show that HHS performs better on the math section of the SAT? (Show ALL steps)
3. The average temperature in Michigan for the month of April is (taken over the last five years) is 48 degrees with a standard deviation of 10 degrees. A sample of 30 days in April gives an average of 50. Is this evidence that the average temperature is NOT 48?