given n=20, x-bar=7.2, s=2.1, alpha=0.05

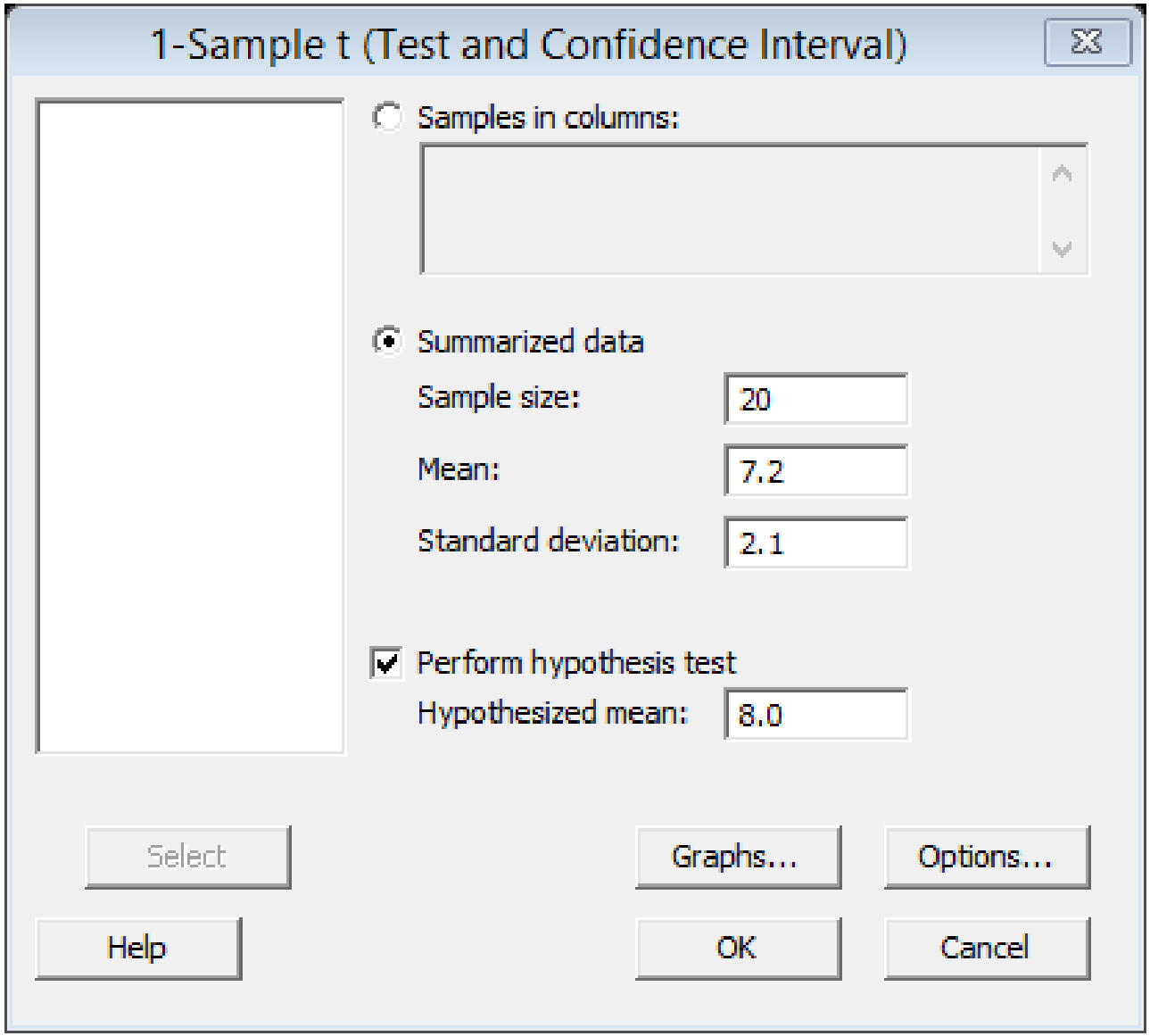
H_0: mu = 8.0

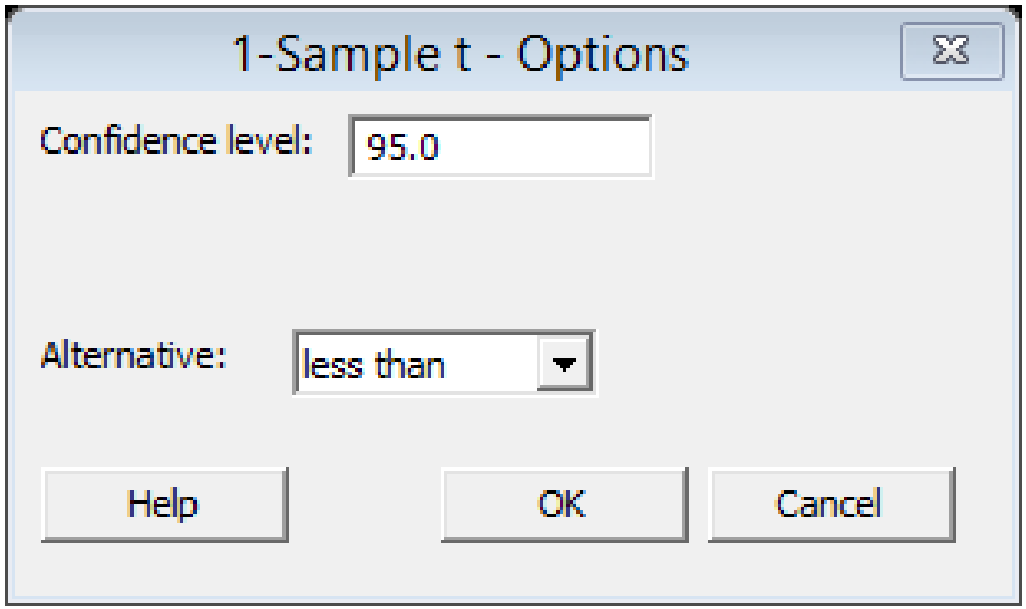
H_a: mu < 8.0

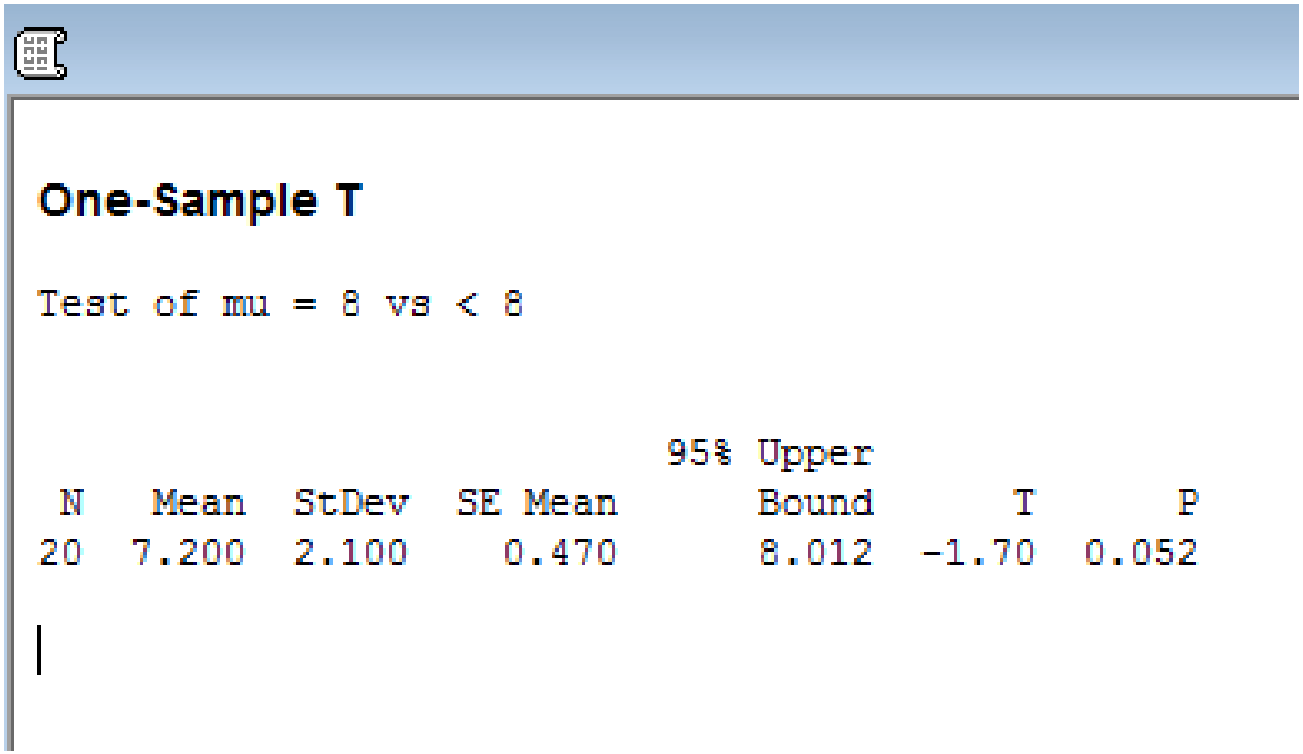
"This study does provide sufficient evidence to conclude with 95% confidence that the process mean is less than 8.0"

or

"This study does not provide sufficient evidence to conclude with 95% confidence that the process mean is less than 8.0"







One-Sample T

Test of mu = 8 vs < 8

N	Mean	StDev	SE Mean	95% Upper Bound	T	P
20	7.200	2.100	0.470	8.012	-1.70	0.052

Classical Test of Hypothesis

State the "null Hypothesis" in terms of a population parameter and an equal (=) sign. Ho: mu = 8.0 given n=20, x-bar=7.2, s=2.1

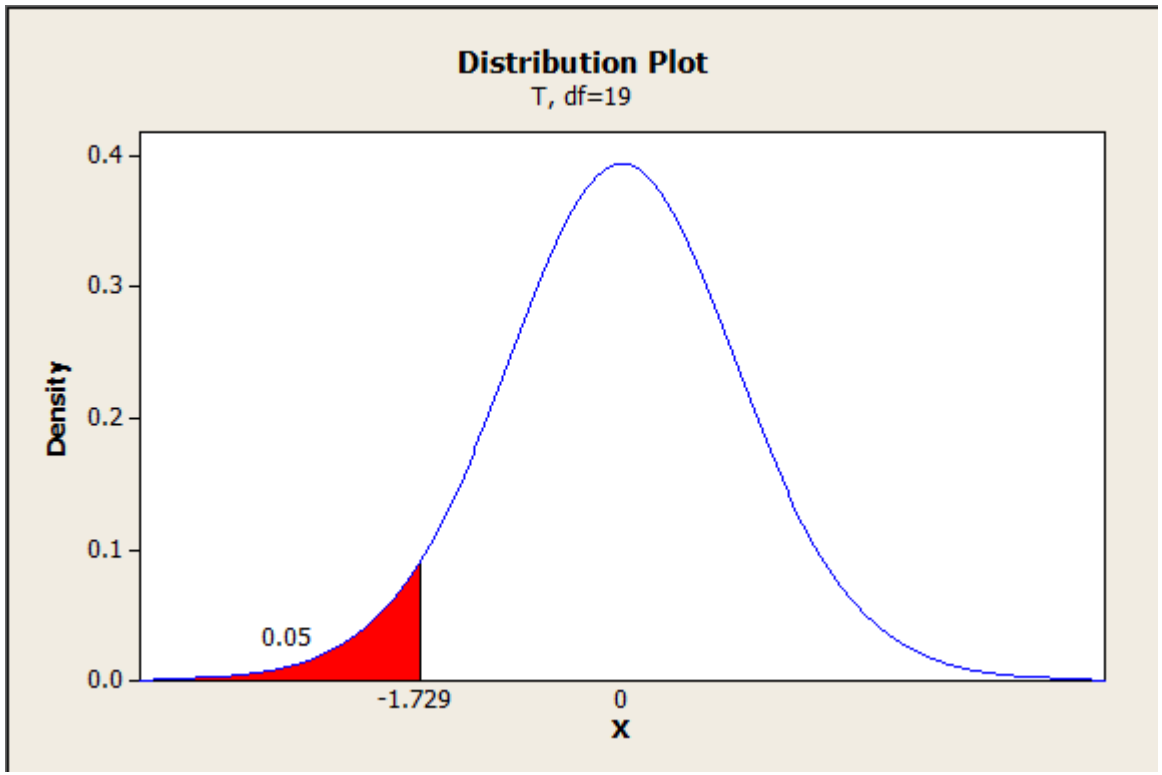
State the Alternative Hypothesis in terms of the same population parameter and one of three inequality signs. Ha: mu < 8.0

State the level of significance to which you wish to test the hypothesis. Alpha = 0.05

Identify the test statistic as either Z calculated, T calculated, Chi-squared calculated or F-calculated.

Identify the rejection region

Rejection Region



Define the rejection criteria in terms of the calculated value and the criteria value:

reject null if t calculated < t critical 0.05, 19 d.f. = -1.729

Evaluate the Test statistic and compare it to the criteria

t calculated - 1.70 is not < - 1.729

Write out the conclusion

“This study does not provide sufficient evidence to conclude with 95% confidence that the process mean is less than 8.0”

What did the p-value tell us?