

Name:

Statistics

Date:

Practice Quiz 6-A

1. Give the critical values for the following confidence intervals. Label each value as z_0 or t_0 .

Use t for means if σ is unknown.

a) $c = 90\%, n = 10, s = 20$ b) $c = 80\%, n = 55, s = 7.6$ c) $c = 90\%, n = 10, \sigma = 20$ d) $c = 78\%, n = 21, \sigma = 1.98$

2. In a class of 32 students, there are 13 boys, 19 girls, 8 freshmen, 14 sophomores, 7 juniors, and 3 seniors. Using complete sentences and no formula, explain how many degrees of freedom this situation has.

How many specific values are needed in order to know how many freshman girls there are, how many freshman boys, etc?

3. Jack keeps track of his number of customers for the past five weekdays: 144, 108, 116, 130, and 122. Use this sample for a 95% confidence interval.

a) Identify or calculate the following values.

$\bar{x} =$	$s =$	$n =$	$df =$
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Use one-var stats on a graphing calculator to find the sample mean and standard deviation. *Count the size of the sample.* *Use the formula for degrees of freedom.*

$c =$	$t_0 =$	$E =$
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The confidence level is the area of the interval. *Cross-reference c and df in the t table.* *Use the formula for margin of error.*

b) Write the confidence interval.

What is the range in which we believe μ to be?

c) Precisely complete the following statement: He is 95% confident that...

Make a claim about the population mean.

d) If he were doing a 90% confidence interval instead of 95%, would the confidence interval be larger, smaller, or the same size?

He doesn't need to be as confident that μ is within the interval.

e) If he knew the actual population standard deviation, rather than estimating it based on the sample, would the confidence interval be larger, smaller, or the same size?

He has more information.