Name _____ Date _____

Elementary Statistics   Period _____

Confidence Levels and Standard Normal Critical Values

To find the z-scores, make sure you are looking for the areas of 1- $\alpha/2$ in the body of the table on your reference sheet (Tables A-2). Then look left and up to find the z-score for the closest area under the curve.

Confidence Level	Confidence level as a decimal	α = 1 – confidence level decimal	$\alpha/2$	1 - $\alpha/2$	$z_{\alpha/2}$ = Critical z-score with an area of 1 - $\alpha/2$ to the left
75%					
85%					
90%					
95%					
97%					
99%					

Confidence Levels and Student-T Critical Values:

Use the given confidence levels and sample sizes to find the corresponding t-scores using Table A-3.
Remember that α is the area in both tails and α/2 is the area in each tail.

Sample size = n	Degrees of freedom = n - 1	Confidence level	Confidence level as a decimal	α = 1 – confidence level decimal (area in both tails)	α/2 (area in each tail)	Critical value $t_{\alpha/2}$
20		80%				
30		90%				
40		95%				
51		98%				
301		99%				

When you are estimating which population parameter(s) should you use the standard normal critical value?

When you are estimating which population parameter(s) should you use the student-t critical value?