

Significance Testing :T-tests and P values!

Ca ss		
Difference in Means		
Data	Alpha Ca ss	310 Ca ss
calc mean	2.7626283	1.310579
calc var	2.72626685	3.413676
count	6430	397
Calc		
sdiff	0.09498774	
tcalc	15.2866985	
df	6825	
tcritical (P=0.001)	3.2905	

Since $t_{calc} > t_{critical}$ and $P < 0.05$ can reject hypothesis that alpha mean = 310 mean and accept with 99.9% certainty the means differ.

Confidence Interval Calc	
tcritical (P=0.001)	3.2905
low value	1.1394918
high value	1.76460612

99.9% confidence that: $1.14 < (\text{alpha mean} - 310 \text{ mean}) < 1.76$

CO ss		
Difference in Means		
Data	Alpha	310
calc mean	1.394287	0.260106
calc var	2.689612	2.722197
count	3098	188
Calc		
sdiff	0.123887	
tcalc	9.15497	
df	3284	
tcritical (P=0.001)	3.2905	

Since $t_{calc} > t_{critical}$ and $P < 0.05$ can reject hypothesis that alpha mean = 310 mean and accept with 99.9% certainty the means differ.

Confidence Interval Calc	
tcritical (P=0.001)	3.2905
low value	0.726531
high value	1.54183

99.9% confidence that $0.73 < (\text{alpha mean} - 310 \text{ mean}) < 1.54$.

Note: A P value less than 0.05 is the standard acceptance level for statistical significance.