Confidence Interval Information Table

	Parameter	Statistic	Standard Error	Critical Value Multiplier	Degrees of Freedom (df)
One Proportion	π	$\hat{\pi}$	$\sqrt{\frac{\hat{\pi}(1-\hat{\pi})}{n}}$	z^*	N/A
Difference between proportions	$\pi_1 - \pi_2$	$\hat{\pi}_1 - \hat{\pi}_2$	$\sqrt{\frac{\hat{\pi}_1(1-\hat{\pi}_1)}{n_1} + \frac{\hat{\pi}_2(1-\hat{\pi}_2)}{n_2}}$	z^*	N/A
One mean	μ	$\bar{x}$	$\sigma/\sqrt{n}$ or $s/\sqrt{n}$	$z^*\ or\ t^*$ depends on whether you know σ or have large n	If using t, $df = n - 1$
Difference between means (unpooled*)	$\mu_1 - \mu_2$	$\bar{x}_1 - \bar{x}_2$	$\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}$	t^*	$min(n_1 - 1, n_2 - 1)$
Difference between means (pooled*)	$\mu_1 - \mu_2$	$\bar{x}_1 - \bar{x}_2$	$\sqrt{s_p^2\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}$ where $s_p^2 = \frac{s_1^2(n_1-1) + s_2^2(n_2-1)}{n_1 + n_2 - 2}$	t^*	$n_1 + n_2 - 2$
Paired difference (mean difference)	μ_D	$\bar{d}$	$s_d/\sqrt{n}$	t^*	$n - 1$

* To determine which method to use for pooled vs. unpooled, test the ratio of the variances (NOT standard deviations) like the following example: $\frac{s_1^2}{s_2^2} > 2$ ➔ use unpooled, otherwise use pooled.