Hypothesis Testing Information Table

	Parameter	Statistic	Type of Test Statistic	Test Statistic Calculation	Degrees of Freedom (df)
One Proportion	p	$\hat{p}$	z	$z = \dfrac{\hat{p} - p_0}{\sqrt{\dfrac{p_0 q_o}{n}}}$	N/A
Difference between proportions	$p_1 - p_2$	$\hat{p}_1 - \hat{p}_2$	z	$z = \dfrac{\hat{p}_1 - \hat{p}_2}{\sqrt{\hat{p}\hat{q}\left(\dfrac{1}{n_1} + \dfrac{1}{n_2}\right)}}$	N/A
One mean	μ	$\bar{x}$	$z\ or\ t$, depends on whether you know σ, or is n is large	$z = \frac{\bar{x} - \mu_0}{\sigma / \sqrt{n}}$ or $t = \frac{\bar{x} - \mu_0}{s / \sqrt{n}}$	If using t, $df = n - 1$
Difference between means (unpooled)	$\mu_1 - \mu_2$	$\bar{x}_1 - \bar{x}_2$	t	$t = \dfrac{\bar{x}_1 - \bar{x}_2}{\sqrt{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2}}}$	$min(n_1 - 1, n_2 - 1)$
Paired difference (mean difference)	μ_D	$\bar{d}$	t	$t = \dfrac{\bar{d}}{s_d / \sqrt{n}}$	$n - 1$

For rejection criteria, see “Hypothesis Testing Rejection Criteria” handout on the class website.