Population Parameter	Sample Statistic	SE	Critical Value	Test Statistic for a HT
p	$\hat{p}$	$\sqrt{\frac{\hat{p}\hat{q}}{n}}$ for a CI $\sqrt{\frac{p_0 q_0}{n}}$ for a HT	$z_{\alpha/2}$ for a CI $z_{\alpha/2}$ or z_α for a HT	$z = \frac{\hat{p} - p_0}{SE_{\hat{p}}}$
$p_1 - p_2$	$\hat{p}_1 - \hat{p}_2$	$\sqrt{\frac{\hat{p}_1\hat{q}_1}{n_1} + \frac{\hat{p}_2\hat{q}_2}{n_2}}$ for a CI $\sqrt{\overline{p}\overline{q}\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}$ for a HT where $\overline{p} = \frac{X_1 + X_2}{n_1 + n_2}$, based on the assumption that $H_0 : p_1 = p_2$ is true	$z_{\alpha/2}$ for a CI $z_{\alpha/2}$ or z_α for a HT	$z = \frac{(\hat{p}_1 - \hat{p}_2) - 0}{SE_{\hat{p}_1 - \hat{p}_2}}$
μ	$\overline{x}$	$\frac{\sigma}{\sqrt{n}}$ for a CI or HT if σ is known $\frac{s}{\sqrt{n}}$ for a CI or a HT if σ is unknown	$z_{\alpha/2}$ for a CI if σ is known; $t_{\alpha/2,df}$ if σ is unknown $z_{\alpha/2}$ or z_α for a HT if σ is known; $t_{\alpha,df}$ or $t_{\alpha/2,df}$ if σ is unknown $df = n - 1$ for t	$z = \frac{\overline{x} - \mu_0}{SE_{\overline{x}}}$ if σ is known $t = \frac{\overline{x} - \mu_0}{SE_{\overline{x}}}$ if σ is unknown
μ_d	$\overline{d}$	$\frac{s_d}{\sqrt{n}}$ for a CI or a HT for matched pairs	$t_{\alpha/2,df}$ for a CI $t_{\alpha,df}$ or $t_{\alpha/2,df}$ for a HT $df = n - 1$ where n is the number of pairs	$t = \frac{\overline{d} - \mu_{d_0}}{SE_{\overline{d}}}$

Population Parameter	Sample Statistic	SE	Critical Value	Test Statistic for a HT
$\mu_1 - \mu_2$	$\bar{x}_1 - \bar{x}_2$	$\sqrt{\frac{\sigma_1^2}{n_1}+\frac{\sigma_2^2}{n_2}}$ for a CI or HT, for independent samples, $\sigma_1^2 \neq \sigma_2^2$ $\sqrt{\frac{s_1^2}{n_1}+\frac{s_2^2}{n_2}}$ for a CI or HT, for independent samples, σ_1^2, σ_2^2 unknown and assume $\sigma_1^2 \neq \sigma_2^2$ $\sqrt{s_p^2\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}$ for a CI or HT for independent samples, σ_1^2, σ_2^2 unknown but assume $\sigma_1^2 = \sigma_2^2$ $s_p^2 = \frac{(n_1-1)s_1^2+(n_2-1)s_2^2}{n_1+n_2-2}$	$z_{\alpha/2}$ for a CI if σ is known; $t_{\alpha/2, df}$ if σ is unknown $z_{\alpha/2}$ or z_α for a HT if σ is known; $t_{\alpha, df}$ or $t_{\alpha/2, df}$ if σ is unknown $df = \min(n_1, n_2) - 1$ for unpooled variances $df = n_1 + n_2 - 2$	$z = \frac{(\bar{x}_1 - \bar{x}_2) - 0}{SE_{\bar{x}_1 - \bar{x}_2}}$ if σ is known; $t = \frac{(\bar{x}_1 - \bar{x}_2) - 0}{SE_{\bar{x}_1 - \bar{x}_2}}$ if σ is unknown
β_1	b_1	$s_{b_1} = \frac{s_e}{\sqrt{SS_{xx}}}$ where $s_e = \sqrt{s_e^2} = \sqrt{\frac{SSE}{n-2}} = \sqrt{\frac{\sum_{i=1}^{n}(y_i - \hat{y})^2}{n-2}}$ and $SS_{xx} = \sum_{i=1}^{n}(x_i - \bar{x})^2$	$t_{\alpha/2, df}$ for a CI $t_{\alpha, df}$ or $t_{\alpha/2, df}$ for a HT $df = n - 2$ where n is the number of paired observations in the regression	$t = \frac{b_1 - 0}{s_{b_1}}$