

	Confidence Interval	Hypothesis Testing	Sample Size
Population Proportion	$\hat{p} \pm z^* \sqrt{\frac{\hat{p}\hat{q}}{n}}$	$z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0 q_0}{n}}}$	$n = \frac{(z^*)^2 \hat{p}\hat{q}}{ME^2}$
Population mean (σ known)	$\bar{x} \pm z^* \left(\frac{\sigma}{\sqrt{n}}\right)$	$z = \frac{\bar{x} - \mu_0}{\sigma/\sqrt{n}}$	$n = \left(\frac{z^* \sigma}{ME}\right)^2$
Population mean (σ estimated) $df = (n-1)$	$\bar{x} \pm t^* \left(\frac{s}{\sqrt{n}}\right)$	$t = \frac{\bar{x} - \mu_0}{s/\sqrt{n}}$	$n = \left(\frac{t^* s}{ME}\right)^2$

	Confidence Interval	Hypothesis Testing
Difference between 2 population proportions	$(\hat{p}_1 - \hat{p}_2) \pm z^* \sqrt{\frac{\hat{p}_1 \hat{q}_1}{n_1} + \frac{\hat{p}_2 \hat{q}_2}{n_2}}$	$z = \frac{(\hat{p}_1 - \hat{p}_2) - 0}{\sqrt{\frac{\hat{p}_1 \hat{q}_1}{n_1} + \frac{\hat{p}_2 \hat{q}_2}{n_2}}}$
Difference between 2 population means (σ estimated) $df = \min((n_1-1), (n_2-1))$	$(\bar{x}_1 - \bar{x}_2) \pm t^* \sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}$	$t = \frac{(\bar{x}_1 - \bar{x}_2) - 0}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$
Population mean of paired differences (σ estimated) $df = (n-1)$	$\bar{d} \pm t^* \frac{s_d}{\sqrt{n}}$	$t = \frac{\bar{d} - 0}{s_d/\sqrt{n}}$