

Confidence Interval	Hypotheses Tests
$\bar{X} \pm Z_{1-\frac{\alpha}{2}} \frac{\sigma}{\sqrt{n}}$	$Z = \frac{\bar{X} - \mu_0}{\sigma/\sqrt{n}}$
$\bar{X} \pm t_{1-\frac{\alpha}{2}, n-1} \frac{s}{\sqrt{n}}$	$t = \frac{\bar{X} - \mu_0}{s/\sqrt{n}}$
$\bar{X}_1 - \bar{X}_2 \pm Z_{1-\frac{\alpha}{2}} \sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}$	$Z = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}}$
$\bar{X}_1 - \bar{X}_2 \pm t_{1-\frac{\alpha}{2}, n_1+n_2-2} S_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}$	$t = \frac{\bar{X}_1 - \bar{X}_2}{S_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$
$S_p = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$	$t = \frac{\bar{D}}{S_D/\sqrt{n}}$
$\hat{p} \pm Z_{1-\frac{\alpha}{2}} \sqrt{\frac{\hat{p}\hat{q}}{n}}$	$Z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0 q_0}{n}}}$
$\hat{p}_1 - \hat{p}_2 \pm Z_{1-\frac{\alpha}{2}} \sqrt{\frac{\hat{p}_1 \hat{q}_1}{n_1} + \frac{\hat{p}_2 \hat{q}_2}{n_2}}$	$Z = \frac{\hat{p}_1 - \hat{p}_2}{\sqrt{\frac{\hat{p}\hat{q}}{n_1} + \frac{\hat{p}\hat{q}}{n_2}}}$
$\bar{D} \pm t_{1-\frac{\alpha}{2}} \frac{S_D}{\sqrt{n}}$	$\bar{p} = \frac{X_1 + X_2}{n_1 + n_2}$
Sampling Distribution	Z values
$\bar{X} \sim N\left(\mu, \frac{\sigma^2}{n}\right)$	$Z_{0.95} = 1.645$
$\bar{X}_1 - \bar{X}_2 \sim N\left(\mu_1 - \mu_2, \frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}\right)$	$Z_{0.975} = 1.96$
$\hat{p} \sim N\left(p, \frac{pq}{n}\right)$	$Z_{0.99} = 2.325$
$\hat{p}_1 - \hat{p}_2 \sim N\left(p_1 - p_2, \frac{p_1 q_1}{n_1} + \frac{p_2 q_2}{n_2}\right)$	$Z_{0.995} = 2.575$