EQUATIONS

$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i$	$s^2 = \frac{\sum_{i=1}^{n}(x_i - \bar{x})^2}{n-1} = \frac{\sum_{i=1}^{n} x_i^2 - n\bar{x}^2}{n-1}$	$z = \frac{x-\mu}{\sigma_x}$
$s^2 = \frac{1}{n-1}\left[\sum_{i=1}^{n} x_i^2 - \frac{1}{n}\left(\sum_{i=1}^{n} x_i\right)^2\right]$	$x_p = \mu + \sigma_x z_p$	$P(\lvert X-\mu\rvert \leq k\sigma) \geq 1 - \frac{1}{k^2}$
$\sigma_{\bar{x}}^2 = \frac{\sigma_x^2}{n}$	$\sigma_p^2 = \frac{p(1-p)}{n}$	$n = \frac{z_{1-\alpha/2}^2 \sigma_x^2}{m^2}$
$n = \frac{z_{1-\alpha/2}^2 p(1-p)}{m^2}$	$\bar{x} \pm z_{1-\alpha/2}\frac{\sigma_x}{\sqrt{n}}$	$\hat{p} \pm z_{1-\alpha/2}\frac{\sqrt{\hat{p}(1-\hat{p})}}{\sqrt{n}}$
$\bar{x} \pm t_{1-\alpha/2}\frac{s}{\sqrt{n}}$	$z = \frac{\bar{x}-\mu_0}{\sigma_x/\sqrt{n}}$	$z = \frac{\hat{p}-p_0}{\sqrt{p_0(1-p_0)/n}}$
$t = \frac{\bar{x}-\mu_0}{s/\sqrt{n}}$	$\sigma_{\hat{p}_1-\hat{p}_2}^2 =$ $\frac{p_1(1-p_1)}{n_1} + \frac{p_2(1-p_2)}{n_2}$	$\hat{p}_1 - \hat{p}_2 \pm$ $z_{1-\alpha/2}\sqrt{\frac{\hat{p}_1(1-\hat{p}_1)}{n_1} + \frac{\hat{p}_2(1-\hat{p}_2)}{n_2}}$
$\sigma_{\bar{x}_1-\bar{x}_2}^2 = \frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}$	$\bar{x}_1 - \bar{x}_2 \pm t_{1-\alpha/2}\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}$	$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$
$df = \frac{(V_1+V_2)^2}{\frac{V_1^2}{n_1-1} + \frac{V_2^2}{n_2-1}}$	$V_1 = \frac{s_1^2}{n_1}$	$V_2 = \frac{s_2^2}{n_2}$
$z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}}$	$z = \frac{\hat{p}_1 - \hat{p}_2}{\sqrt{\frac{p_c(1-p_c)}{n_1} + \frac{p_c(1-p_c)}{n_2}}}$	$p_c = \frac{n_1\hat{p}_1 + n_2\hat{p}_2}{n_1+n_2}$
$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{s_p^2\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$	$s_p^2 = \frac{(n_1-1)s_1^2 + (n_2-1)s_2^2}{n_1+n_2-2}$	$\bar{x}_1 - \bar{x}_2 \pm$ $t_{1-\alpha/2}\sqrt{s_p^2\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}$
$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$	$\bar{x}_1 - \bar{x}_2 \pm$ $t_{1-\alpha/2}\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}$	$\hat{\mu}_B = \frac{\frac{\eta}{\delta^2} + \frac{n}{\sigma^2}\bar{y}}{\frac{1}{\delta^2} + \frac{n}{\sigma^2}}$
$\frac{\frac{\eta}{\delta^2} + \frac{n}{\sigma^2}\bar{y}}{\frac{1}{\delta^2} + \frac{n}{\sigma^2}} \pm \frac{z_{1-a/2}}{\sqrt{\frac{1}{\delta^2} + \frac{n}{\sigma^2}}}$	$\text{Beta}(\sum y_i + 1, \quad n - \sum y_i + 1)$	$\text{Beta}(\sum y_i + \alpha, n - \sum y_i + \beta)$
$\hat{p}_B = \frac{\sum y_i + 1}{n+2}$	$\hat{p}_B = \frac{\sum y_i + \alpha}{n+\alpha+\beta}$	$\left(\frac{(n-1)S^2}{\chi_{1-\alpha/2}^2}, \frac{(n-1)S^2}{\chi_{\alpha/2}^2}\right)$
$\left(\frac{S_1^2}{S_2^2}F_{\alpha/2}, \frac{S_1^2}{S_2^2}F_{1-\alpha/2}\right)$	$\chi^2 = \frac{(n-1)S^2}{\sigma_0^2}$	$F = \frac{S_1^2/\sigma_1^2}{S_2^2/\sigma_2^2}$
$\frac{\left[\frac{dt(\theta)}{d\theta}\right]^2}{-nE\left[\frac{d^2 \ln f(y\mid\theta)}{d\theta^2}\right]}$	$n = \frac{(z_\alpha + z_\beta)^2\sigma^2}{m^2}$	