Formulas Provided on Midterm Exam 6

$$t = \frac{(\bar{X}_1 - \bar{X}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} \qquad d.f. = \text{the smaller of } n_1 - 1 \text{ or } n_2 - 1$$

$$t = \frac{\bar{D} - \mu_D}{(s_D / \sqrt{n})} \qquad \bar{D} = \frac{\Sigma D}{n} \qquad s_D = \sqrt{\frac{n(\Sigma D^2) - (\Sigma D)^2}{n(n-1)}} \qquad d.f. = n - 1$$

$$z = \frac{(\hat{p}_1 - \hat{p}_2) - (p_1 - p_2)}{\sqrt{\bar{p}\bar{q}\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}} \qquad \hat{p}_1 = \frac{X_1}{n_1} \qquad \hat{p}_2 = \frac{X_2}{n_2} \qquad \bar{p} = \frac{X_1 + X_2}{n_1 + n_2} \qquad \bar{q} = 1 - \bar{p}$$

$F = \frac{s_1^2}{s_2^2}$ where s_1^2 is the larger variance and $d.f.N = n_1 - 1$, $d.f.D = n_2 - 1$

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