1) z confidence interval for a population mean: $\bar{x} \pm z^* \frac{\sigma}{\sqrt{n}}$

2) Sample size for a desired margin of error m: $n = \left(\frac{z^* \sigma}{m}\right)^2$

3) z test statistic for $H_0 : \mu = \mu_0$: $z = \frac{\bar{x} - \mu_0}{\sigma / \sqrt{n}}$

4) t confidence interval for a population mean: $\bar{x} \pm t^* \frac{s}{\sqrt{n}}$

5) t test statistic for $H_0 : \mu = \mu_0$: $t = \frac{\bar{x} - \mu_0}{s / \sqrt{n}}$

6) Two – sample t confidence interval for $\mu_1 - \mu_2$: $(\bar{x}_1 - \bar{x}_2) \pm t^* \sqrt{\frac{s_1^{\ 2}}{n_1} + \frac{s_2^{\ 2}}{n_2}}$

7) Two – sample t test statistic for $H_0 : \mu_1 = \mu_2$: $t = \frac{(\bar{x}_1 - \bar{x}_2)}{\sqrt{\frac{s_1^{\ 2}}{n_1} + \frac{s_2^{\ 2}}{n_2}}}$

8) Large – sample z confidence interval for p: $\hat{p} \pm z^* \sqrt{\dfrac{\hat{p}(1-\hat{p})}{n}}$

9) Sample size for a desired margin of error m: $n = \left(\dfrac{z^*}{m}\right)^2 p^*(1-p^*)$

10) z test statistic for $H_0 : p = p_0$: $z = \dfrac{(\hat{p} - p_0)}{\sqrt{\dfrac{p_0(1-p_0)}{n}}}$

11) Plus Four Confidence Interval for p: $\tilde{p} \pm z^* \sqrt{\dfrac{\tilde{p}(1-\tilde{p})}{n+4}}$

12) Large-sample Confidence Interval for two proportions:

$$(\hat{p}_1 - \hat{p}_2) \pm z^* \sqrt{\frac{\hat{p}_1(1-\hat{p}_1)}{n_1} + \frac{\hat{p}_2(1-\hat{p}_2)}{n_2}}$$

13) z test statistic for $H_0 : p_1 = p_2$: $z = \dfrac{\hat{p}_1 - \hat{p}_2}{\sqrt{\hat{p}(1-\hat{p})\left(\dfrac{1}{n_1} + \dfrac{1}{n_2}\right)}}$

where $\hat{p} = \dfrac{\text{total successes}}{\text{total observations}} = \dfrac{\text{count}_1 + \text{count}_2}{n_1 + n_2}$