

Formulas Provided on Midterm Exam 4

$$\mu = np$$

$$\sigma = \sqrt{npq}$$

$$z = \frac{X - \mu}{\sigma}$$

$$z = \frac{\bar{X} - \mu}{(\sigma / \sqrt{n})}$$

$$\bar{X} - E < \mu < \bar{X} + E \quad E = z_{\alpha/2} \left(\frac{\sigma}{\sqrt{n}} \right) \quad n = \left(\frac{z_{\alpha/2} \cdot \sigma}{E} \right)^2$$

$$\bar{X} - E < \mu < \bar{X} + E \quad E = t_{\alpha/2} \left(\frac{s}{\sqrt{n}} \right) \quad d.f. = n - 1$$

$$\hat{p} - E < p < \hat{p} + E \quad E = z_{\alpha/2} \sqrt{\frac{\hat{p}\hat{q}}{n}} \quad n = \hat{p}\hat{q} \left(\frac{z_{\alpha/2}}{E} \right)^2 \quad \hat{p} = \frac{X}{n} \quad \hat{q} = 1 - \hat{p} = \frac{n - X}{n}$$