

Formula Sheet (Test 2)

$$\mu = \sum xP(x) \quad E(x) = n \cdot p$$

$$\sigma^2 = \sum (x - \mu)^2 P(x) = \sum x^2 P(x) - \mu^2 \quad \sigma^2 = n \cdot p \cdot q$$

$$P(x) = {}_n C_x p^x q^{n-x} \quad P(x) = \frac{\mu^x e^{-\mu}}{x!} \quad P(x) = \frac{{}^M C_x \cdot {}^{(N-M)} C_{(n-x)}}{{}^N C_n}$$

$$y = f(x) = \frac{e^{-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2}}{\sigma\sqrt{2\pi}}$$

$$\sigma_{\bar{x}} = \frac{\sigma_x}{\sqrt{n}} \quad \text{or} \quad \frac{\sigma_x}{\sqrt{n}} \sqrt{\frac{N-n}{N-1}}$$

$$E = z(\alpha/2) \cdot \sigma_{\bar{x}}$$

$$n = \left(\frac{z(\alpha/2) \cdot \sigma_x}{E} \right)^2$$

$$n = \left[\frac{\sigma_x(z_\alpha + z_\beta)}{\mu_0 - \mu_a} \right]^2$$