

Test 2: Formula Sheet

$$P(X = x) = \binom{n}{x} p^x (1-p)^{n-x}$$

$$\mu = np$$

$$\sigma^2 = np(1-p)$$

$$P(X = x) = \frac{\mu^x e^{-\mu}}{x!}$$

$$\sigma^2 = \mu$$

$$P(X = x) = \frac{\binom{M}{x} \binom{N-M}{n-x}}{\binom{N}{n}}$$

$$\mu = n \frac{M}{N}$$

$$\sigma^2 = \frac{N-n}{N-1} n \frac{M}{N} \frac{N-M}{N}$$

$$P(a \leq X \leq b) = \int_a^b \frac{e^{-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2}}{\sigma\sqrt{2\pi}} dx$$