

Math 189 -- Formula sheet for Quiz #3

(A clean copy of the Standard Normal Table will also be provided.)

$$P(A|B) = \frac{P(AB)}{P(B)}$$

$$\mu = E(x) = \sum x p(x)$$

$$\sigma^2 = \sum (x - \mu)^2 p(x) = \sum x^2 p(x) - \mu^2$$

$$P(x = k) = C_k^n p^k q^{n-k}$$

$$P(x = k) = \frac{\mu^k e^{-\mu}}{k!} \quad \left(\text{or, if you prefer, } P(x = k) = \frac{\lambda^k e^{-\lambda}}{k!} \right)$$

$$P(x = k) = \frac{C_k^M C_{n-k}^{N-M}}{C_n^N}$$

$$\mu = n \left(\frac{M}{N} \right)$$

$$\sigma^2 = n \left(\frac{M}{N} \right) \left(\frac{N-M}{N} \right) \left(\frac{N-n}{N-1} \right)$$

$$\int_{-\infty}^{\infty} f(x) dx = 1$$

$$\mu = E(x) = \int_{-\infty}^{\infty} x f(x) dx$$

$$\sigma^2 = E(x^2) - \mu^2 \quad \text{where} \quad E(x^2) = \int_{-\infty}^{\infty} x^2 f(x) dx$$

$$P(a < x < b) = \int_a^b f(x) dx$$

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