

Stat 254 – Test #1 Formula Sheet

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

$$P(S_i|A) = \frac{P(S_i)P(A|S_i)}{\sum P(S_j)P(A|S_j)}$$

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

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

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

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

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

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

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