Formula Sheet – Test 2 – SCCC 312A – Spring 2006

$$P(A \ \ or \ \ B) = P(A) + P(B) - P(A \ \ and \ \ B)$$

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

$$P(A \ \ and \ \ B) = P(B)P(A|B)$$

or

$$P(A \ \ and \ \ B) = P(A)P(B|A)$$

$$\mu = \sum xP(x), \ \sigma^2 = \left[\sum x^2 P(x)\right] - \mu^2$$

For $X \sim$ Binomial(n,p):

$$P(x) = \frac{n!}{x!(n-x)!}p^x q^{n-x}, \ \mu = np, \ \sigma^2 = npq$$

$$Z = \frac{X - \mu}{\sigma}, \ X = Z\sigma + \mu$$

$$Z = \frac{\bar{X} - \mu}{\sigma/\sqrt{n}}$$