

$$s^2 = \frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n-1}$$

$$1 - \frac{1}{k^2}$$

$$P(A \cup B) = P(A) + P(B) - P(A \cap B)$$

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

$$\mu = \sum xp(x)$$

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

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

$$\mu = np$$

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