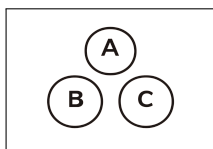


19

Discrete Distribution Bernoulli Trials

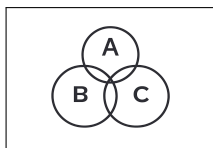
A



$$n = 2$$

$$p = 0.50$$

$$k = 1$$

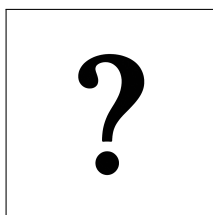


$$P(X = k) = \binom{n}{k} (p)^k (1 - p)^{n-k}$$

$$P(X = 1) = \binom{2}{1} (0.50)^1 (0.50)^1$$

$$P(X = 1) = 2 \times 0.50 \times 0.50$$

$$P(X = 1) = \boxed{0.50}$$



$$n = 8$$

$$p = 0.10$$

$$k = 1$$

$$P(X = 1) = ?$$

19

Discrete Distribution Bernoulli Trials

A



$$\begin{aligned}n &= 8 \\p &= 0.10 \\k &= 1 \\P(X = 1) &= ?\end{aligned}$$

$$\begin{aligned}P(X = k) &= \binom{n}{k} (p)^k (1 - p)^{n-k} \\P(X = 1) &= \binom{8}{1} (0.10)^1 (0.90)^{8-1} \\P(X = 1) &= 8 \times 0.10 \times 0.90^7 \\P(X = 1) &\approx 8 \times 0.10 \times 0.4782969 \\P(X = 1) &\approx 0.3826\end{aligned}$$