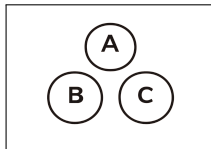


19

Discrete Distribution Bernoulli Trials

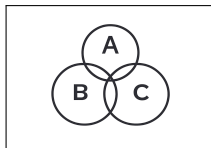
F



$$n = 2$$

$$p = 0.50$$

$$k = 1$$

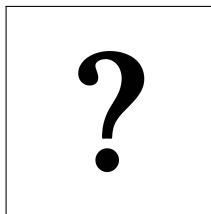


$$P(X = k) = \binom{n}{k} (p)^k (1 - p)^{n-k}$$

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

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

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



$$n = 200$$

$$P(X > 2) = ?$$

19

Discrete Distribution
Bernoulli Trials

F



$$n = 200$$

$$P(X > 2) = ?$$

$$P(X \geq 2) = 1 - P(X < 2) = 1 - [P(X = 0) + P(X = 1)]$$

$$P(X = 0) = (1 - p)^{200}$$

$$P(X = 1) = \binom{200}{1} p (1 - p)^{199} = 200 p (1 - p)^{199}$$

$$P(X \geq 2) = 1 - [(1 - p)^{200} + 200 p (1 - p)^{199}]$$