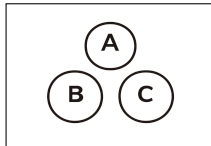
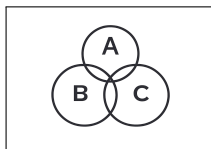


20 Discrete Distribution Exp Value / Variance

A



$$n = 6$$
$$p = \frac{1}{2}$$



$$E[X] = np = 6 \cdot \frac{1}{2} = \boxed{3}$$

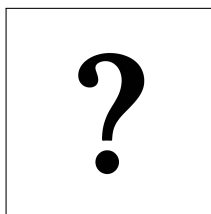
$$\text{Var}(X) = np(1 - p) = 3 \cdot \frac{1}{2} = \boxed{\frac{3}{2}}$$

$$E[X^2] = \text{Var}(X) + (E[X])^2$$

$$E[X^2] = \frac{3}{2} + 3^2$$

$$E[X^2] = \frac{3}{2} + 9$$

$$E[X^2] = \boxed{\frac{21}{2}}$$



$$n = 72$$

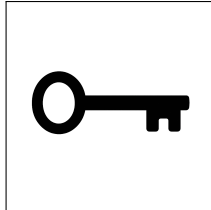
$$p = \frac{1}{6}$$

$$E[X] = ?$$

20

Discrete Distribution
Exp Value / Variance

A



$$n = 72$$

$$p = \frac{1}{6}$$

$$E[X] = ?$$

$$E[X] = np = 72 \cdot \frac{1}{6} = 12$$

$$\text{Var}(X) = np(1 - p) = 12 \cdot \frac{5}{6} = 10$$

$$E[X^2] = \text{Var}(X) + (E[X])^2$$

$$E[X^2] = 10 + 12^2$$

$$E[X^2] = 10 + 144$$

$$E[X^2] = \boxed{154}$$