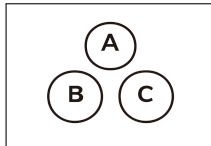
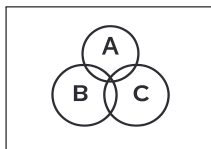


20 Discrete Distribution Exp Value / Variance

F



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



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

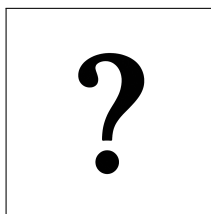
$$\text{Var}(X) = np(1 - p) = 3 \cdot \frac{1}{2} = \boxed{\frac{3}{2}}$$

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

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

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

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



$$n = 40$$

$$p = 0.5$$

$$E[X] = ?$$

$$\text{Var}(X) = ?$$

20 Discrete Distribution Exp Value / Variance

F



$$n = 40$$

$$p = 0.5$$

$$E[X] = ?$$

$$Var(X) = ?$$

$$E[X] = np = 40 \times 0.5 = \boxed{20}$$

$$Var(X) = np(1 - p) = 40 \times 0.5 \times 0.5 = \boxed{10}$$