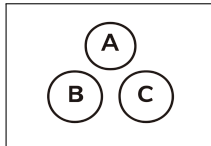
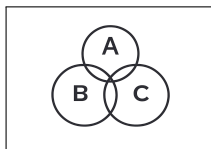


20 Discrete Distribution Exp Value / Variance

K



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



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

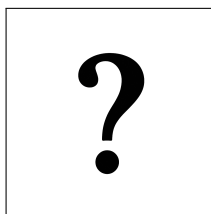
$$\text{Var}(X) = np(1 - p) = 3 \cdot \frac{1}{2} = \boxed{\frac{3}{2}}$$

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

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

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

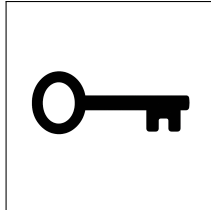
$$E[X^2] = \boxed{\frac{21}{2}}$$



$$n = 100$$
$$p = 0.02$$
$$E[X] = ?$$

20 Discrete Distribution Exp Value / Variance

K



$$\begin{aligned}n &= 100 \\p &= 0.02 \\E[X] &= ?\end{aligned}$$

$$E[X] = np = 100 \times 0.02 = \boxed{2}$$