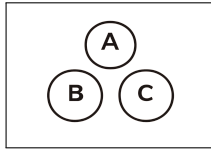


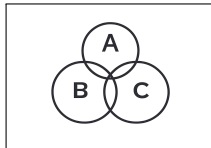
8

Discrete Distribution
Probability

N



$$S = \{B, B, R, R, R\}$$



$$\mathbb{P}(S, BB) = \mathbb{P}(S, B) \times \mathbb{P}(S, B) = 0.40 \times 0.25 = 0.10$$

$$\mathbb{P}(S, BR) = \mathbb{P}(S, B) \times \mathbb{P}(S, R) = 0.40 \times 0.75 = 0.30$$

$$\mathbb{P}(S, RB) = \mathbb{P}(S, R) \times \mathbb{P}(S, B) = 0.60 \times 0.50 = 0.30$$

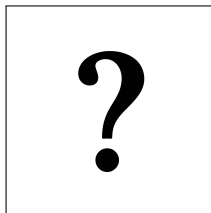
$$\mathbb{P}(S, RR) = \mathbb{P}(S, R) \times \mathbb{P}(S, R) = 0.60 \times 0.50 = 0.30$$

$$\mathbb{P}(S, BB) = \mathbb{P}(S, B) \times \mathbb{P}(S, B) = 0.40 \times 0.40 = 0.16$$

$$\mathbb{P}(S, BR) = \mathbb{P}(S, B) \times \mathbb{P}(S, R) = 0.40 \times 0.60 = 0.24$$

$$\mathbb{P}(S, RB) = \mathbb{P}(S, R) \times \mathbb{P}(S, B) = 0.60 \times 0.40 = 0.24$$

$$\mathbb{P}(S, RR) = \mathbb{P}(S, R) \times \mathbb{P}(S, R) = 0.60 \times 0.60 = 0.36$$



$$S = \{A, B, C, D, E, F, G, H, I, J\}$$

$$T = \{A, B, C\}$$

$$P(\mathbb{P}(S, T)) = ?$$

8

Discrete Distribution
Probability

N



$$S = \{A, B, C, D, E, F, G, H, I, J\}$$

$$T = \{A, B, C\}$$

$$P(\textcircled{\#}(S, T)) = \textcircled{\#}(S, T) / \textcircled{\#}(S, 3) = 1 / (10! / (10 - 3)!) = 1 / (10 \times 9 \times 8) = 1 / 720 \approx 0.0014$$