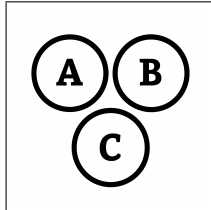
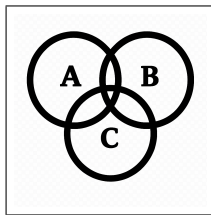




# Probability



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



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

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

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

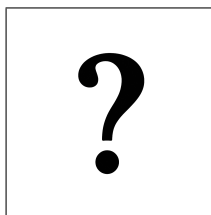
$$P(S, RR) = P(S, R) \times P(S, R) = 0.60 \times 0.50 = 0.30$$

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

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

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

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



$$S = \{C, C, C, C, C, C, C, C, C, C, C, C, S, S, S, S, S, V, V, V\}$$

$$P(P(S, CC)) + P(P(S, SS)) + P(P(S, VV)) = ?$$



# Probability



$$S = \{C, C, C, C, C, C, C, C, C, C, C, C, S, S, S, S, S, V, V, V\}$$

$$\mathfrak{C}(S, 2) = \binom{20}{2} = \frac{20 \cdot 19}{2} = 190$$

$$\mathfrak{C}(S, CC) = \binom{12}{2} = \frac{12 \cdot 11}{2} = 66$$

$$\mathfrak{C}(S, SS) = \binom{5}{2} = \frac{5 \cdot 4}{2} = 10$$

$$\mathfrak{C}(S, VV) = \binom{3}{2} = \frac{3 \cdot 2}{2} = 3$$

$$P(\mathfrak{C}(S, CC)) + P(\mathfrak{C}(S, SS)) + P(\mathfrak{C}(S, VV)) =$$

$$(\mathfrak{C}(S, CC) + \mathfrak{C}(S, SS) + \mathfrak{C}(S, VV)) / \mathfrak{C}(S, 2) = (66 + 10 + 3) / 190 = 79 / 190 \approx 0.42$$