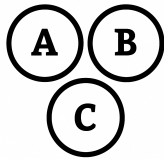


K

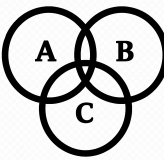
Complementary Event

K



$$S = \{1, 2, 3, 4, 5, 6, 7, 8\}$$

$$A = \{1, 2\}$$



$$P(A) = |A|/|S| = 2/8 = 0.25$$

$$P(A^C) = 1 - P(A) = 0.75$$

?

$$P(P \cap C) = 0.22$$

$$P(P^c \cap C^c) = 0.12$$

$$P(P) = x$$

$$P(C) = x + 0.14$$

$$P(P) = ?$$

K

Complementary Event

K



$$P(P \cap C) = 0.22$$

$$P(P^c \cap C^c) = 0.12$$

$$P(P) = x$$

$$P(C) = x + 0.14$$

$$P(P) = ?$$

$$P(P \cup C) = 1 - P(P^c \cap C^c) = 1 - 0.12 = 0.88$$

$$P(P \cup C) = P(P) + P(C) - P(P \cap C)$$

$$0.88 = x + (x + 0.14) - 0.22$$

$$0.88 = 2x + 0.14 - 0.22 = 2x - 0.08$$

$$0.96 = 2x$$

$$P(P) = x = \frac{0.96}{2} = 0.48$$