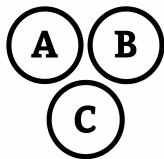


N

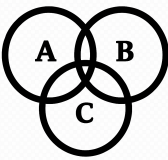
Complementary Events

N



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

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



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

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

?

$$P(L) = 0.04$$

$$P(P) = 0.10$$

$$P(L \cap P^c) = 0.01$$

$$P(L^c \cap P^c) = ?$$

N

Complementary Events

N



$$P(L) = 0.04$$

$$P(P) = 0.10$$

$$P(L \cap P^c) = 0.01$$

$$P(L^c \cap P^c) = ?$$

$$P(L^c \cap P^c) = 1 - P(L \cup P)$$

$$P(L) = P(L \cap P) + P(L \cap P^c)$$

$$0.04 = P(L \cap P) + 0.01$$

$$P(L \cap P) = 0.03$$

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

$$P(L \cup P) = 0.04 + 0.10 - 0.03 = 0.11$$

$$P(L^c \cap P^c) = 1 - P(L \cup P) = 1 - 0.11 = 0.89$$