

7

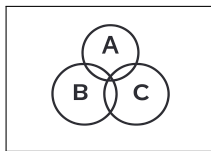
Discrete Distribution
Complementary Event

P



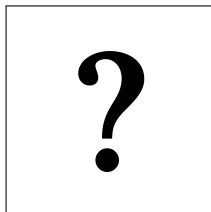
$$S = \{1, 2, 3, 4, 5, 6, 7, 8\}$$

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



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

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



$$|A| = 130$$

$$|B| = 280$$

$$|C| = 150$$

$$|U| = 1000$$

$$|A \cap C| = 30$$

$$|B \cap C| = 50$$

$$|A \cap B| = 40$$

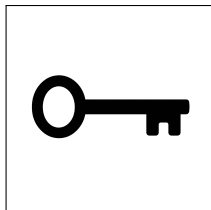
$$|A \cap B \cap C| = 10$$

$$|(A \cup B \cup C)^c| = ?$$

7

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$$|A \cup B \cup C| = |A| + |B| + |C| - |A \cap B| - |A \cap C| - |B \cap C| + |A \cap B \cap C|$$

$$|A \cup B \cup C| = 130 + 280 + 150 - 40 - 30 - 50 + 10 = 560 - 120 + 10$$

$$|A \cup B \cup C| = 450$$

$$|(A \cup B \cup C)^c| = |U| - |A \cup B \cup C|$$

$$|(A \cup B \cup C)^c| = 1000 - 450 = 550$$