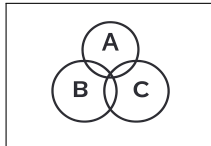
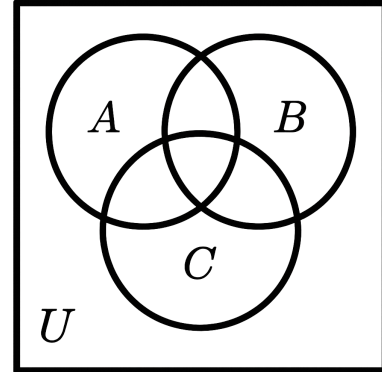
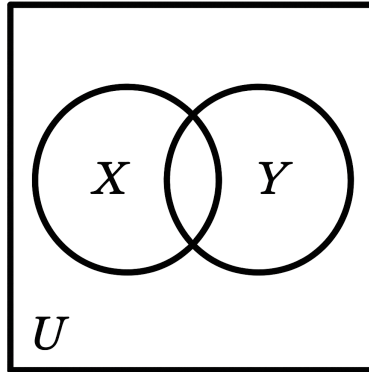
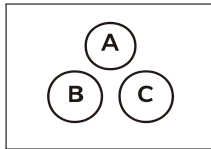


2

Discrete Distribution Set Operations

B



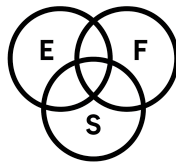
$$|X \cup Y| = |X| + |Y| - |X \cap Y| = |U| - |X^C \cap Y^C|$$

$$|X \cap Y| = |X| + |Y| - |X \cup Y| = |U| - |X^C \cup Y^C|$$

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

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

$$|A \cap B| = |A \cap B \cap C^c| + |A \cap B \cap C|$$



$$|U| = 110$$

$$|E| = 75$$

$$|S| = 52$$

$$|F| = 50$$

$$|E \cap F| = 30$$

$$|F \cap S| = 22$$

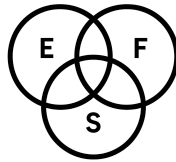
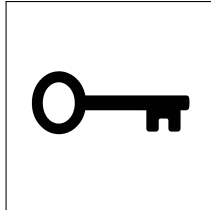
$$|S \cap E| = 33$$

$$|E \cap F \cap S| = ?$$

2

Discrete Distribution
Set Operations

B



$$|U| = 110$$

$$|E| = 75$$

$$|S| = 52$$

$$|F| = 50$$

$$|E \cap F| = 30$$

$$|F \cap S| = 22$$

$$|S \cap E| = 33$$

$$|E \cap F \cap S| = |U| - |E| - |F| - |S| + |E \cap F| + |F \cap S| + |S \cap E| = 18$$