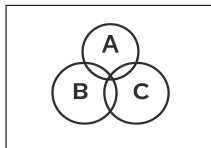
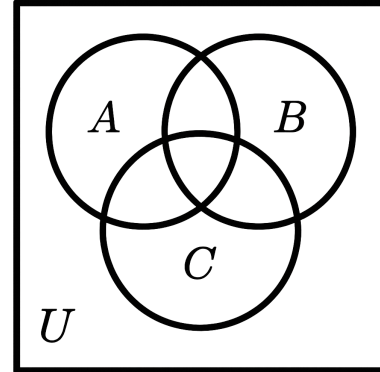
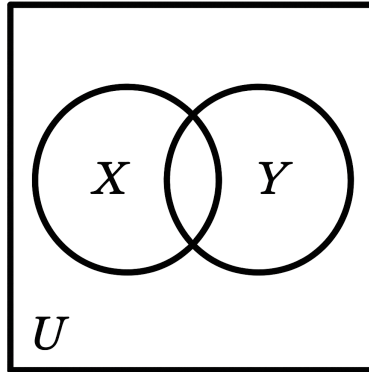
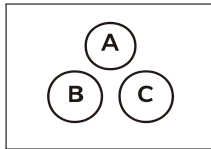


2

Discrete Distribution Set Operations

F



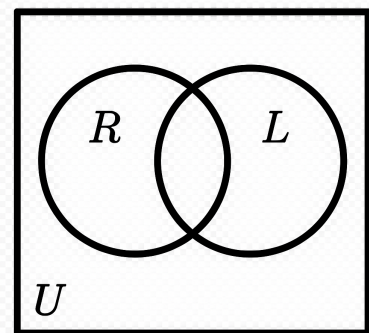
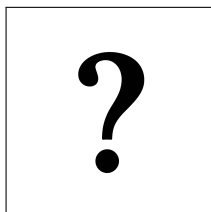
$$|X \cup Y| = |X| + |Y| - |X \cap Y| = |U| - |X^C \cap Y^C|$$

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

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

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

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



$$|R| = 30$$

$$|L| = 40$$

$$|R^C \cap L^C| = 35$$

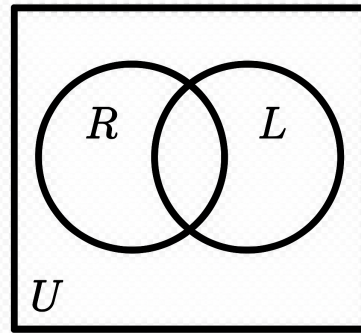
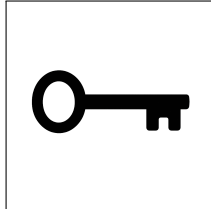
$$|U| = 100$$

$$|L \cup R| = ?$$

2

Discrete Distribution
Set Operations

F



$$|R| = 30$$

$$|L| = 40$$

$$|R^C \cap L^C| = 35$$

$$|U| = 100$$

$$|L \cup R| = ?$$

$$|L \cup R| = |L| + |R| - |L \cap R|$$

$$|L \cup R| = |L| + |R| - (|U| - |L^C \cap R^C|) = 40 + 30 - (100 - 35) = 5$$