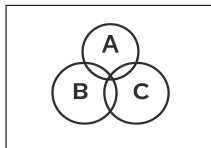
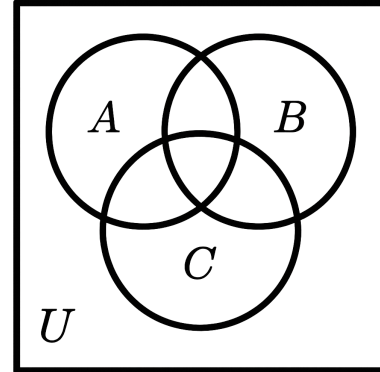
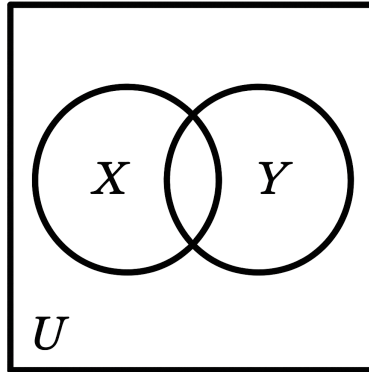
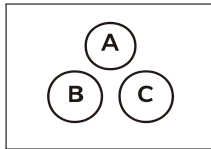


2

Discrete Distribution Set Operations

L



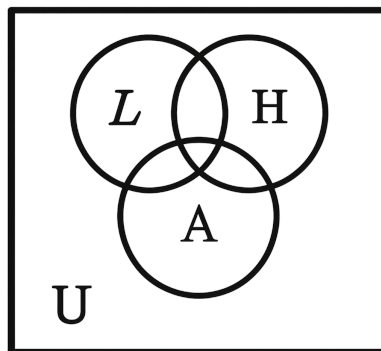
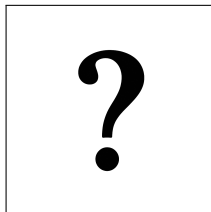
$$|X \cup Y| = |X| + |Y| - |X \cap Y| = |U| - |X^c \cap Y^c|$$

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

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

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

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



$$|L| = 55$$

$$|A| = 60$$

$$|H| = 30$$

$$|U| = |L \cup A \cup H| = 100$$

$$|L \cap A| = 25$$

$$|L \cap H| = 15$$

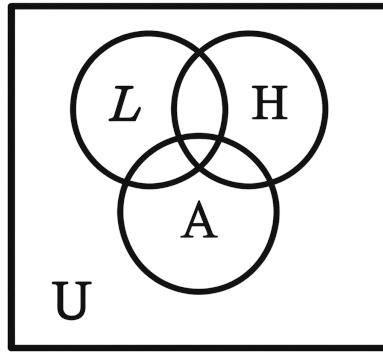
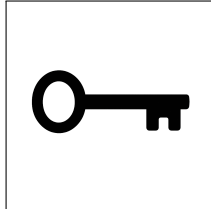
$$|A \cap H| = 15$$

$$|L \cap A \cap H| = ?$$

2

Discrete Distribution
Set Operations

L



$$|L| = 55$$

$$|A| = 60$$

$$|H| = 30$$

$$|U| = |L \cup A \cup H| = 100$$

$$|L \cap A| = 25$$

$$|L \cap H| = 15$$

$$|A \cap H| = 15$$

$$|L \cap A \cap H| = ?$$

$$|L \cap A \cap H| = -|L| - |A| - |H| + |L \cap A| + |L \cap H| + |A \cap H| + |L \cup A \cup H|$$

$$|L \cap A \cap H| = -55 - 60 - 30 + 25 + 15 + 15 + 100 = 10$$