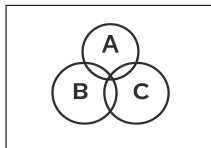
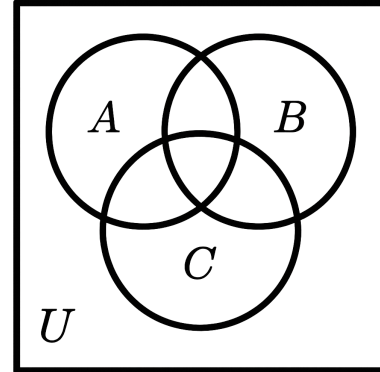
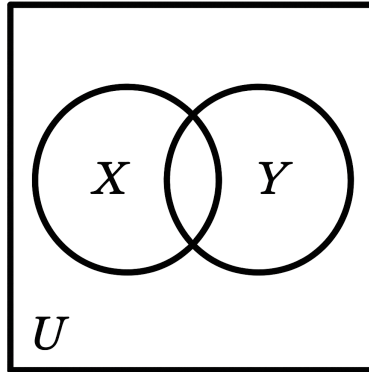
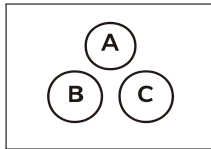


2

Discrete Distribution Set Operations

C



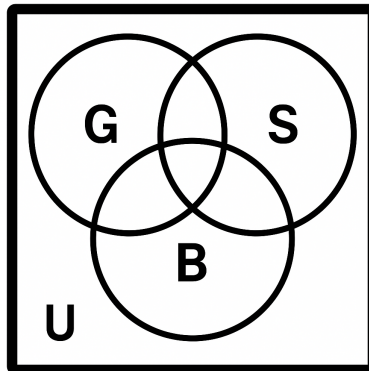
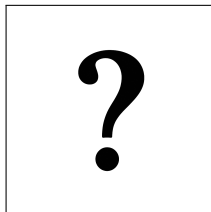
$$|X \cup Y| = |X| + |Y| - |X \cap Y| = |U| - |X^c \cap Y^c|$$

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

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

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

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



$$G = 28 : B = 29 : S = 19$$

$$G \cap B = 14$$

$$B \cap S = 12$$

$$G \cap S = 10$$

$$G \cap S \cap B = 8$$

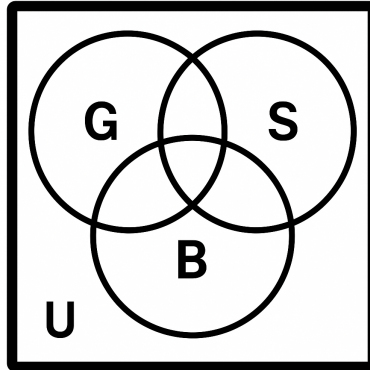
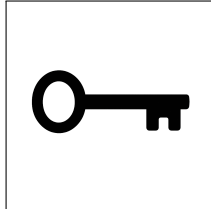
$$U = 100$$

$$(G \cup B \cup S)^c = \boxed{?}$$

2

Discrete Distribution
Set Operations

C



$$G = 28$$

$$B = 29$$

$$S = 19$$

$$G \cap B = 14$$

$$B \cap S = 12$$

$$S \cap G = 10$$

$$G \cap S \cap B = 8$$

$$U = 100$$

$$(G \cup B \cup S)^c = |U| - (|G| + |B| + |S| - |G \cap B| - |B \cap S| - |S \cap G| + |G \cap B \cap S|)$$

$$(G \cup B \cup S)^c = 100 - (28 + 29 + 19 - 14 - 12 - 10 + 8)$$

$$(G \cup B \cup S)^c = 100 - 81$$

$$(G \cup B \cup S)^c = 19$$