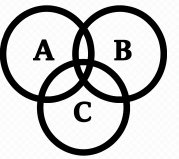
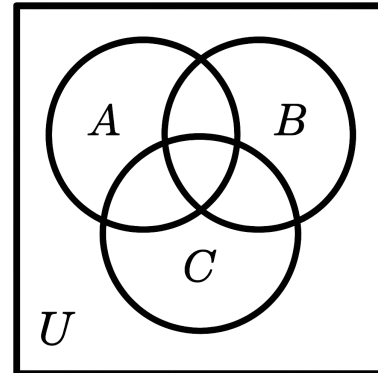
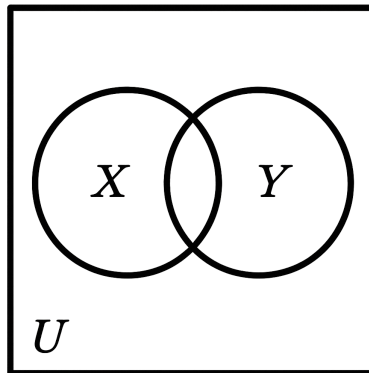
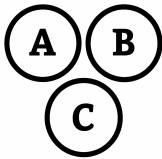


# H

## Set Operations

# H



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

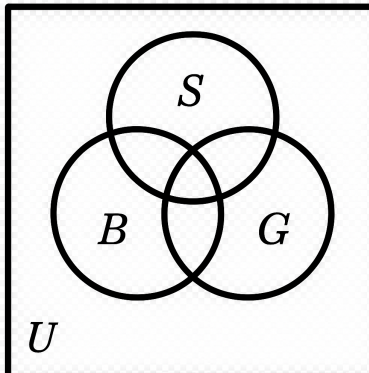
$$|X \cap Y| = |X| + |Y| - |X \cup Y| = |U| - |X^c \cup Y^c|$$

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

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

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

# ?



$$|S| = 22 : |B| = 25 : |G| = 39$$

$$|S \cap B| = 9$$

$$|S \cap G| = 17$$

$$|B \cap G| = 20$$

$$|S \cap B \cap G| = 6$$

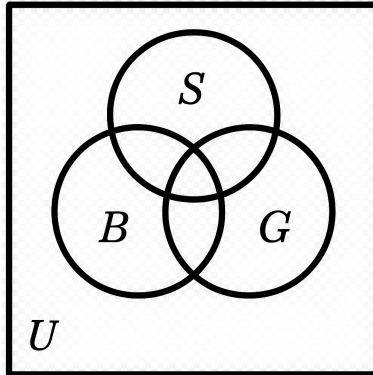
$$|(S \cup B \cup G)^c| = 4$$

$$|S \cup B \cup G| = ?$$

# H

## Set Operations

# H



$$|S| = 22$$

$$|B| = 25$$

$$|G| = 39$$

$$|S \cap B| = 9$$

$$|S \cap G| = 17$$

$$|B \cap G| = 20$$

$$|S \cap B \cap G| = 6$$

$$|(S \cup B \cup G)^c| = 4$$

$$|S \cup B \cup G| = ?$$

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

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

$$|U| = 22 + 25 + 39 - 9 - 17 - 20 + 6 + 4 = 50$$