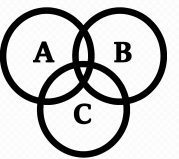
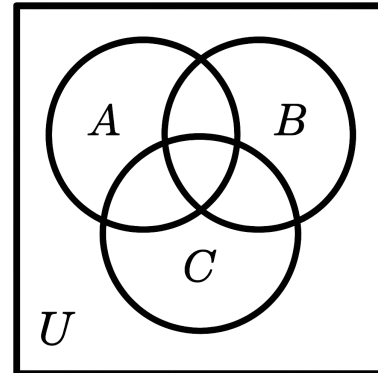
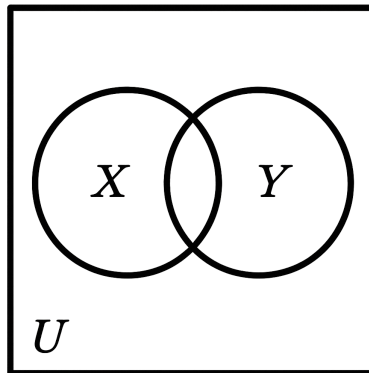
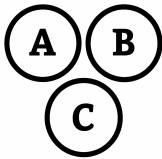


# A

## Set Operations

# A



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

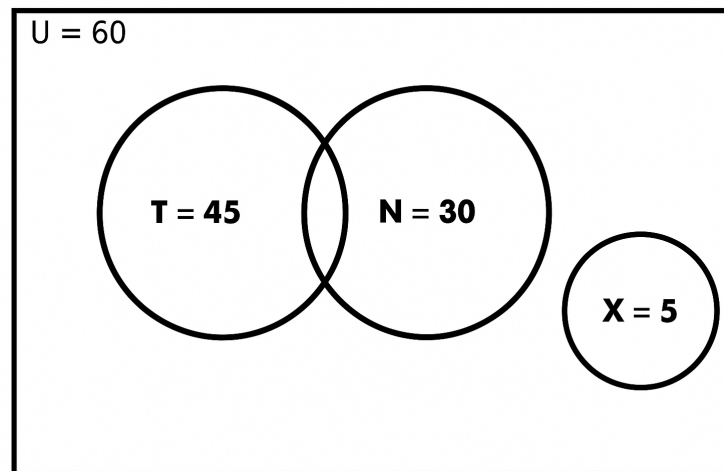
$$|X \cap Y| = |X| + |Y| - |X \cup Y| = |U| - |X^c \cup Y^c|$$

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

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

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

# ?



$$|U| = 60 : |T| = 45 : |N| = 30 : |X| = 5$$

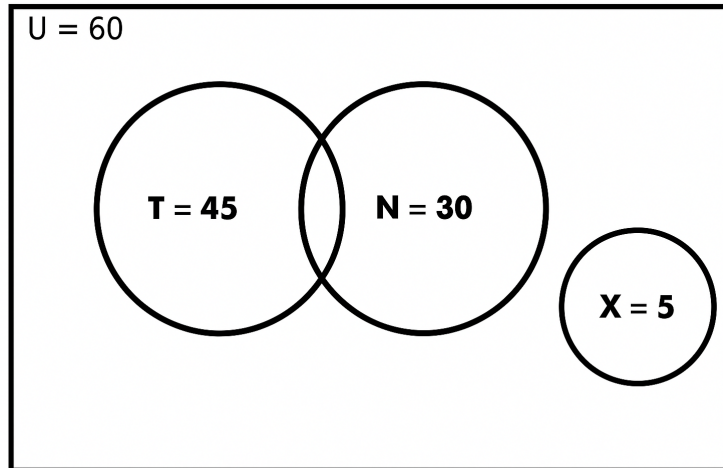
$$|T \cup N| = ?$$

$$|T \cap N| = ?$$

# A

## Set Operations

# A



$$|U| = 60$$

$$|T| = 45$$

$$|N| = 30$$

$$|X| = 5$$

$$|T \cup N| = |U| - |X| = 60 - 5 = 55$$

$$|T \cap N| = |T| + |N| - |T \cup N| = 45 + 30 - 55 = 20$$