Let $A$ and $B$ be sets. Complete the following definitions.

$A$ is a subset of $B$ if

$A$ equals $B$ if

The union of $A$ and $B$ is the set

The intersection of $A$ and $B$ is the set

The compliment of $B$ in $A$ is the set

$A$ and $B$ are disjoint if

Let $A = \{2, \{3\}, 5\}$, $B = \{2, \{3, 5\}\}$, $C = \{\{2\}, \{3\}, \{5\}\}$. Are the following statements true or false?

$2 \in A$ ✗ $3 \in A$ ✗ $\{2, 5\} \subseteq A$ ✗

$2 \in C$ ✗ $3 \in B$ ✗ $\{3, 5\} \subseteq B$ ✗

$\{2\} \subseteq A$ ✗ $\{3\} \subseteq A$ ✗ $\{3, 5\} \subseteq C$ ✗

$\{2\} \subseteq C$ ✗ $\{3\} \subseteq B$ ✗ $\{2, 3, 5\} \in C$ ✗

Find the sets described by the unions, intersections, and compliments below.

$A \cup B =$ ✗ $A \cap B =$ ✗ $A \setminus B =$ ✗

$A \cup C =$ ✗ $A \cap C =$ ✗ $B \setminus A =$ ✗

$B \cup C =$ ✗ $B \cap C =$ ✗ $C \setminus B =$ ✗