The Universal Set is the collection of all objects under consideration

Let Set U contain all positive integers less than 10.

$$\text{set } U = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$$

set $A = \{1, 4, 6, 7, 9\}$ set A'

set $B = \{2, 5, 7\}$ set B'

If A is a set, the Complement of a set A, denoted A', is the set consisting of all elements in the Universal set that are not in set A.

$$\text{set } U = \{a, b, c, d, e, f, g, h, i\}$$

set $A = \{b, c, e, h, i\}$ set A'

set $B = \{a, f, i\}$ set B'

Union	Intersection
set $A \cup$ set $A' =$ Set U	set $A \cap$ set $A' = \varnothing$
The union of a set and its complement is the universal set.	The intersection of a set and its complement is the empty set.