

Definition of the Union of Two Sets

The **union** of two sets, written $A \cup B$, is the set of all elements that belong to either A or B . In set-builder notation, this is written

$$A \cup B = \{x | x \in A \text{ or } x \in B\}$$

EXAMPLE

Given $A = \{2, 3, 4, 5\}$ and $B = \{0, 1, 2, 3, 4\}$, find $A \cup B$.

$$A \cup B = \{0, 1, 2, 3, 4, 5\}$$

- Note that an element that belongs to both sets is listed only once.