

Definition of the Intersection of Two Sets

The **intersection** of two sets, written $A \cap B$, is the set of all elements that are common to both A and B . In set-builder notation, this is written

$$A \cap B = \{x | x \in A \text{ and } x \in B\}$$

EXAMPLE

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

$$A \cap B = \{2, 3, 4\}$$

- The intersection of two sets contains the elements common to both sets.