

Subsets

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Definition

Suppose that A and B are sets.

- ▶ If every element of A is also an element of B , then we say that A is a **subset** of B . This can be written using the subset symbol $A \subset B$.
- ▶ If at least one element of A is not an element of B , then A is not a subset of B . This can be written $A \not\subset B$.

Example

► $\{2, 3, 7\} \subset \{2, 3, 4, 5, 6, 7\}$

► $\{2, 3, 11\} \not\subset \{2, 3, 4, 5, 6, 7\}$

Example

► $\mathbb{N} \subset \mathbb{Z}$

► $\mathbb{Z} \subset \mathbb{Q}$

Example

► $\mathbb{R} \times \mathbb{N} \subset \mathbb{R} \times \mathbb{R}$

