Section 1.1: Sets

Tuesday, September 29, 2015
10:55 AM

set ≡ a collection of objects

↑ don't have to be numbers

element ≡ a member of a set

notation:

$A = \{1, 2, 3\}$

↑ the set A

↑ the numbers 1, 2, and 3

$B = \{2, 4, 6, \ldots\}$ ← infinite set

$C = \{2, 4, 6, \ldots 100\}$ ← finite set

$36 \in C$

↑ "is an element of" / "belongs to"

$37 \notin C$

↑ "is not an element of"

equality of sets:

$\{2, 4, 6\} = \{6, 4, 2\}$ order doesn't matter

$\{2, 4, 6\} = \{2, 2, 4, 4, 4, 4, 6, 6, 6, 6, 6, 6\}$

repetition doesn't matter

named sets:

$N = \{1, 2, 3, \ldots\}$ the set of natural numbers (or counting numbers)

$Z = \{\ldots -3, -2, -1, 0, 1, 2, 3 \ldots\}$ the set of integers

empty set / null set:

$\emptyset = \{\}$

warning! do not use