

- Numbers
- Sets

# Numbers

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$N = \{0, 1, 2, 3, \dots\}$  The set of Natural numbers

$Z = \{\dots, -1, 0, 1, 2, 3, \dots\}$  The set of Integers

$Z^+ = \{1, 2, 3, 4, 5, \dots\}$  The set of Positive integers

$Q = \{p/q \mid P \in Z \text{ and } q \neq 0\}$  The set of Rational numbers

$R$  is the set of Real numbers

# Sets

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Set is unordered collection of objects

$S = \{A, B, C, D\}$

Examples (Is this given examples a sets or not?) :

1.  $A = \{1, 2, 3, 4\}$  Yes , It's set

Cardinality = 4

2.  $\{\{100\}\}$  This is nested set , Set inside another set.

Cardinality = 1

3.  $\{\}$  This is set called an empty set and denoted by  $\emptyset$

Cardinality = 0

4.  $\{\{\}\}$  This is another nested empty sets but warning for this!!!

Cardinality = 1 Because the nested set always has Cardinality = 1.

5.  $\{1, 2, \{3, 5, 6\}, 6\}$

Cardinality = 4  $1 = 1$   $2 = 2$  Nested set  $\{3, 5, 6\} = 3$   $6 = 4$