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Numbers

$N = \{0, 1, 2, 3, \dots\}$ 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

Set is unorder 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