Set Theory

SET

A **set** is a collection of distinct objects, called **elements** of the set

Eg: {1,2,3,4} are all numbers and make a set , {red, orange, yellow, green, blue, indigo, purple}; are all colours and of the same set

Variable can represent a set: Let A ={1,2,3,5}

An empty set is denoted by { } or ∅

SUB SET

A subset of a set *A* is another set that contains only elements from the set *A*, but may not contain all the elements of *A*.

If *B* is a subset of *A*, we write *B* ⊆ *A*

A proper subset is a subset that is not identical to the original set—it contains fewer elements.

If *B* is a proper subset of *A*, we write *B* ⊂ *A*

Eg: Let A ={1,2,3,4}, then a subset of A is {2,4)

UNION

The union of two sets contains all the elements contained in both sets. The union is notated *A*⋃*B.*More formally, *x*∊ *A*⋃ *B* if *x*∈ *A* or *x*∈ *B* (or both)

Eg: Let A = {1,2,3,4} Let B = {5,6,7}

So A U B = {1,2,3,4,5,6,7}

References :

<https://courses.lumenlearning.com/atd-hostos-introcollegemath/chapter/set-theory/>