Covid 19 sathi pasala

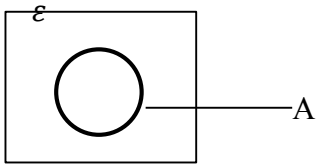
3rd week of September

Grade 9 – Sets

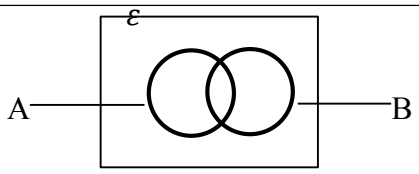
*You have learnt how to represent sets in a Venn diagram in earlier grades. In Venn diagrams, sets are represented by closed figures.

*The universal set is represented in a Venn diagram by a rectangle and The subsets of a universal set are represented using round or oval shaped figures (circles or ellipses)

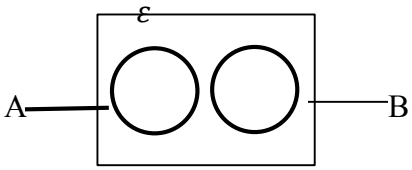
❖ We represent a subset A within the universal set as follows



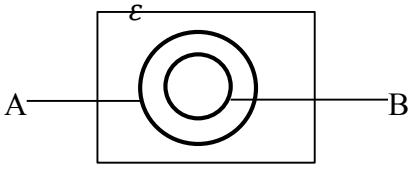
When A and B have common elements, we can represent as follows



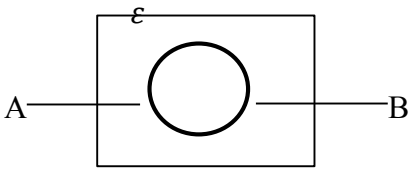
*When the two sets A and B have no elements in common



When B is a subset of A



When A and B are equal



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Intersection of sets

When two or more sets are considered, the set consisting of the elements which are common to all the sets is known as their intersection. When two sets A and B are considered, their intersection is denoted by $A \cap B$.

As an example, let us consider the pair of sets given below,

A ={1, 2, 3, 4, 5, 7}

B ={2, 5, 6, 7}

The set consisting of the elements common to both A and B is {2, 5, 7}.

Therefore, the intersection of the sets A and B is $A \cap B$ = {2, 5, 7}.

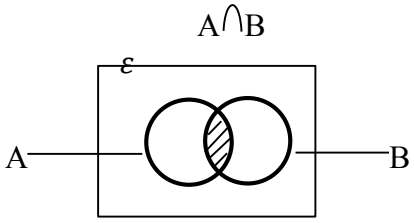
Union of sets

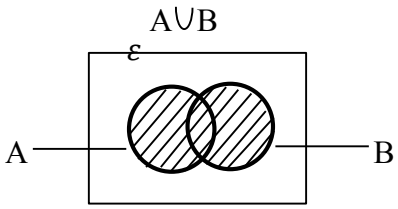
When two or more sets are considered, the set which consists of all the elements in these sets is known as the **union of these sets**. When two sets A and B are considered, their union is denoted by $A \cup B$.

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

B ={2, 5, 6, 7}

$A \cup B$. = {1, 2, 3, 4, 5, 6,7}





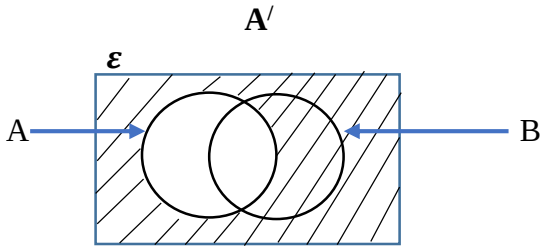
Disjoint sets

If two sets have no elements in common, then they are known as disjoint sets. In other words, if two sets A and B are such that $A \cap B$ = O, then A and B are disjoint sets.

Complement of a set

Let us consider a subset A of a universal set. The set of elements in the universal set which do not belong to the set A is known as the **complement of *A***.

Eg : ε {1,2,3,4,5,6}.
A {2, 5, 6}
$A^{/}$ {1,3,4}



Now you can engage in exercise 22.4 and exercise 22.5