<u>SET THEORY</u>

❖ <u>Cardinality of a Set:</u>

➔ The cardinality of a set is the number of elements in a set Written as |**A**|.

➔ Examples:

➢ Let **R** = {1, 2, 3, 4, 5}. Then |**R**| = 5.

➢ |∅| = 0.

➢ Let S = {∅, {a}, {b}, {a, b}}. Then |S| = 4.

➔ This is the same notation used for vector length in geometry.

➔ A set with one element is sometimes called a **Singleton Set**.

➔ |*S*| (read the *cardinality* **of** *S*) is a measure of how many different elements *S* has.

➔ *E.g.,*

➢ |∅|= 0.
➢ |{1, 2, 3}| = 3.
➢ |{a, b}| = 2.

➔ We say *S* is *infinite* if it is not *finite*.