# Circle

### Circle

A circle is a closed curved shape in which all points are at the same distance from a fixed point.

- The fixed point is called the centre of the circle.
- The distance from the centre to any point on the circle is called the radius.

#### Example:

Draw a circle with a radius of 3 cm:

- Place the compass needle at a point (this is the centre)
- Open the compass to 3 cm
- Draw a round shape keeping the needle fixed
  - > You have a circle of radius 3 cm

## Parts of a Circle:



| Term          | Meaning   |
|---------------|---|
| Centre        | Fixed point in the middle of the circle.                              |
| Radius        | Distance from centre to any point on the circle.                      |
| Diameter      | A line passing through the centre, touching both sides of the circle. |
| Chord         | A line joining two points on the circle (not always through centre).  |
| Circumference | The curved boundary of the circle.                                    |
| Arc           | A part of the boundary of a circle.                                   |
| Sector        | A slice or part of a circle (like a pizza slice).                     |
| Segment       | A part of the circle separated by a chord.                            |

## **Relation between Radius and Diameter:**

Diameter = 2 × Radius

**Example:** If radius = 4 cm  $\rightarrow$  diameter = 8 cm

## **Properties of a Circle:**

- i. All radii of a circle are equal in length
- ii. Diameter is the longest chord in a circle
- iii. A circle has no corners or edges
- iv. The centre is equally distant from every point on the circle
- v. The circumference is the total length around the circle
- vi. More the radius, bigger the circle

#### Summary:

A circle is a round shape with all points at equal distance from its centre

- Important parts: centre, radius, diameter, chord, arc
- Diameter = 2 × Radius
- Used in wheels, clocks, coins, and many round objects

Example: Draw a circle with radius 5 cm using a compass

