

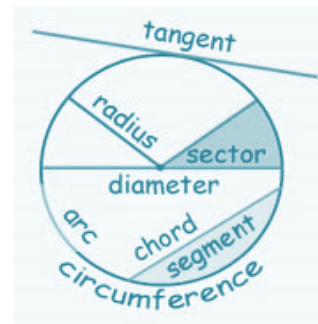
Circle

Understanding the Topic

- A circle is a round closed figure.
- All points on the circle are at equal distance from the center.
- The distance from the center to any point on the circle is called the radius.
- A line that passes through the center and touches two points on the circle is called the diameter.
- The diameter is twice the radius.
- A chord is a line that joins any two points on the circle.
- A sector is a part of the circle made by two radii and the arc between them.
- A segment is the area between a chord and the arc.

Important Parts of a Circle

- **Center** – The fixed point in the middle.
- **Radius** – Distance from the center to any point on the circle.
- **Diameter** – A chord that passes through the center ($2 \times \text{radius}$).
- **Chord** – A line joining any two points on the circle.
- **Arc** – A curved part of the circle.
- **Sector** – A slice or portion of the circle.
- **Segment** – Region between chord and arc.



Examples with Solutions

1. If radius = 4 cm, find the diameter

$$\text{Diameter} = 2 \times \text{radius} = 2 \times 4 = 8 \text{ cm}$$

Answer: 8 cm

2. If diameter = 10 cm, find the radius

$$\text{Radius} = \text{diameter} \div 2 = 10 \div 2 = 5 \text{ cm}$$

Answer: 5 cm



3. Name a real-life object in the shape of a circle

A clock face, coin, wheel

Answer: Clock face is circular

4. Draw a circle and mark its parts

Mark center O, draw radius OA, diameter AB, chord CD

Answer: Students will be able to label parts like center, radius, chord

5. Find the length of the diameter if radius is 7.5 cm

Diameter = $2 \times 7.5 = 15$ cm

Answer: 15 cm

Summary Points

- A circle is a round shape with no corners or edges.
- All points on a circle are at equal distance from the center.
- Radius is half the diameter.
- Important parts include center, radius, diameter, chord, arc, sector, and segment.
- **Example:** If radius = 6 cm, then diameter = 12 cm.