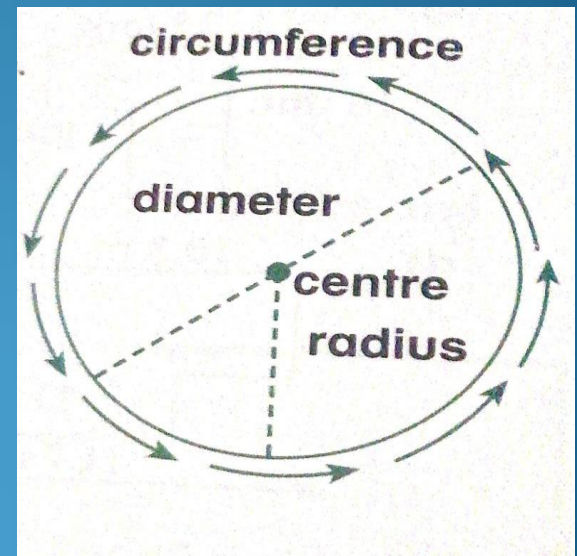


MATHEMATICS



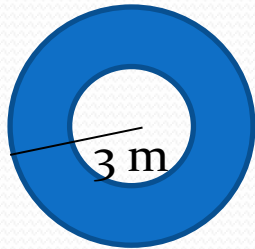
Topic: The circumference and area of a circle.

- ❖ The diameter of a circle is a line drawn through the centre of the circle from one side of the circle to the other.
- ❖ The radius of a circle is a line drawn from the centre of the circle to its edge. The radius is always half the length of the diameter: $d = 2r$
- ❖ The circumference of a circle is the distance around the edge of the circle.
- ❖ To find the circumference of a circle, we use this formula: $circumference = 2\pi r$ or πd .
- ❖ To find the area of a circle, we use this formula: $Area = \pi r^2$.



Worked examples

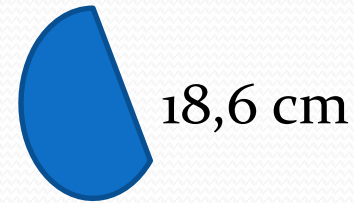
1. Find the circumference and area of this circle.



$$\begin{aligned}C &= 2\pi r \\ &= 2 \times \pi \times 3 \\ &= 18,85 \text{ m}\end{aligned}$$

$$\begin{aligned}A &= \pi r^2 \\ &= \pi \times 3^2 \\ &= 28,27 \text{ m}^2\end{aligned}$$

2. Find the area of the semi-circle below:



$$\begin{aligned}A &= \frac{1}{2} \pi r^2 \\ &= \frac{1}{2} \pi \times (18,6)^2 \\ &= 540,86 \text{ cm}^2\end{aligned}$$

Exercises

Exercise 16.3

1

1.1

1.2

1.3

2

2.1

2.2

2.3

2.4

2.5

Exercise 16.4

1

1.1

1.2

2.

3.

3.1

3.2

4