APH

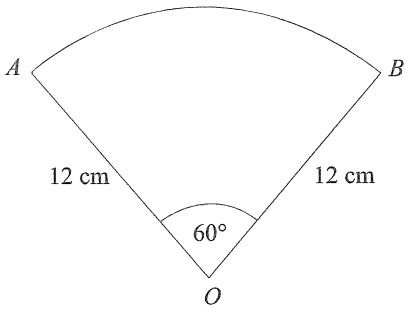
Area and Perimeter of Sectors

Things to remember:

- Area of a sector = $\frac{\theta}{360}$ x π x r^2
- Length of an arc = $\frac{\theta}{360}$ x π x d

Questions:

1. Diagram NOT accurately drawn
OAB is a sector of a circle, centre *O*.
Angle *AOB* = 60°.
OA = *OB* = 12 cm.
Work out the length of the arc *AB*.
Give your answer in terms of π.

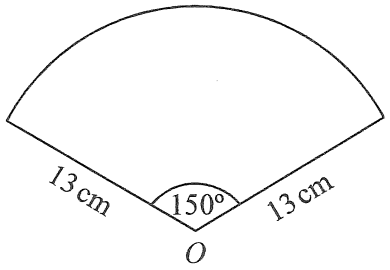


$\frac{60}{360} \times \pi \times 24$

πd

4π ..... cm
(Total 3 marks)

2. Diagram NOT accurately drawn
The diagram shows a sector of a circle, centre *O*.
The radius of the circle is 13 cm.
The angle of the sector is 150°.
Calculate the area of the sector.
Give your answer correct to 3 significant figures.



$\frac{150}{360} \times \pi \times 13^2$

πr^2

221 ..... cm^2
(Total 2 marks)

3. The diagram shows a sector of a circle, centre *O*.
The radius of the circle is 9 cm.
The angle at the centre of the circle is 40°.
Find the perimeter of the sector.
Leave your answer in terms of π.

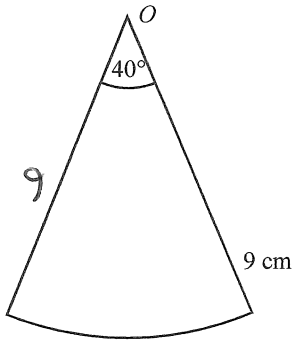


Diagram **NOT** accurately drawn

$\frac{40}{360} \times \pi \times 18 + 9 + 9$

$2\pi + 18$

2π + 18 ..... cm
(Total 4 marks)