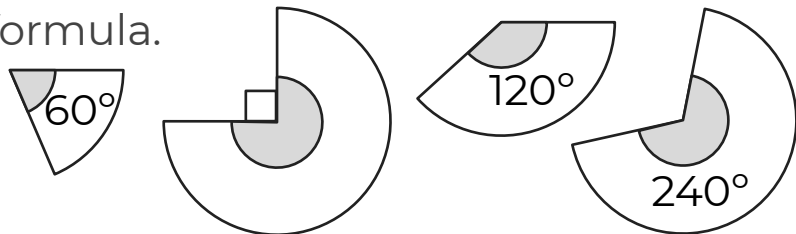


Find the length of an arc and the perimeter of a sector



Find the length of an arc and the perimeter of a sector

1. Match the sectors to their arc length formula.



$$\frac{4\pi r}{3}$$

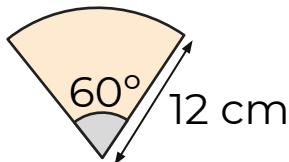
$$\frac{\pi r}{3}$$

$$\frac{3\pi r}{2}$$

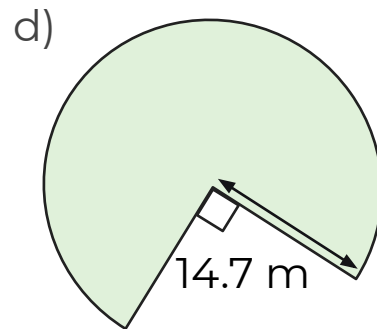
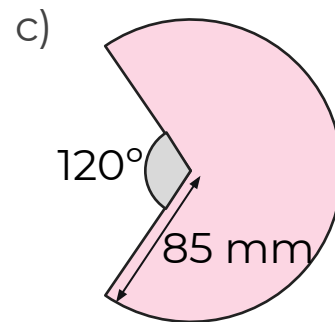
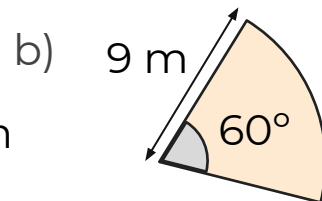
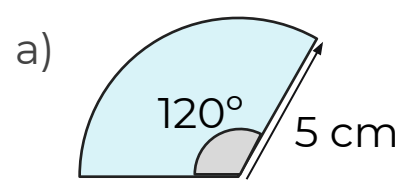
$$\frac{2\pi r}{3}$$

2. a) Find the arc length of this sector in terms of π .

b) What is the perimeter?

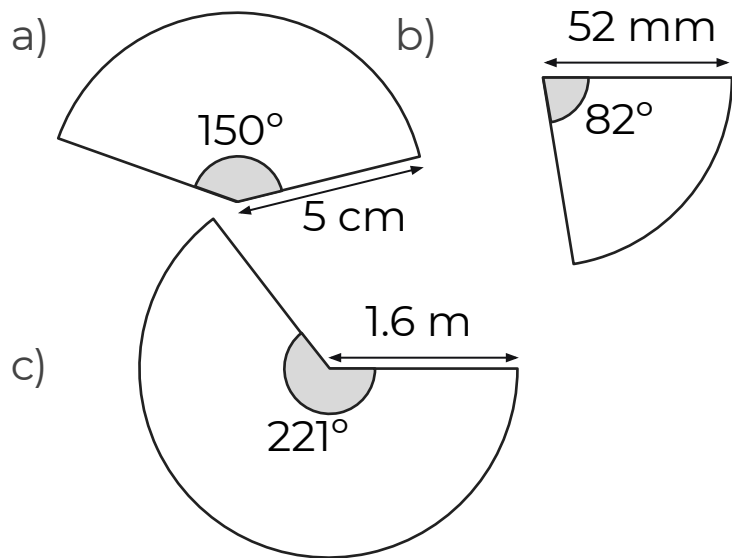


3. Find the arc length and the perimeter for each sector, correct to 3 significant figures.

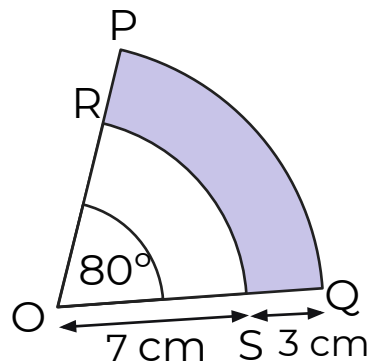


Find the length of an arc and the perimeter of a sector

4. Find the arc length and the perimeter for each sector, correct to 3 significant figures.



5. OPQ and ORS are sectors of circles with centre O. Angle POQ is 80° . OS = 7 cm and SQ = 3 cm. Find the perimeter of the shaded region, correct to 3 significant figures.

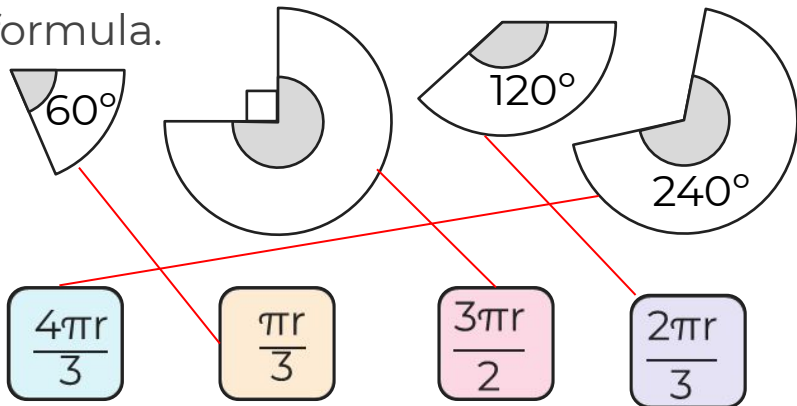


Answers



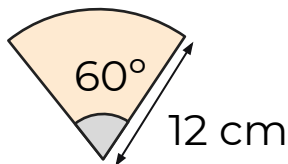
Find the length of an arc and the perimeter of a sector

1. Match the sectors to their arc length formula.



2. a) Find the arc length of this sector in terms of π .

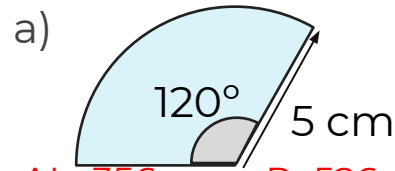
b) What is the perimeter?



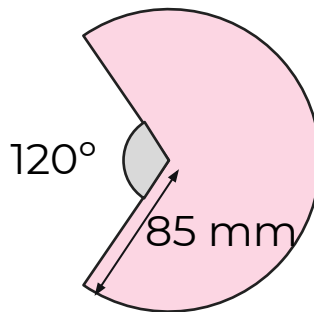
$$4\pi + 24\text{ cm}$$

3. Find the arc length and the perimeter for each sector, correct to 3 significant figures.

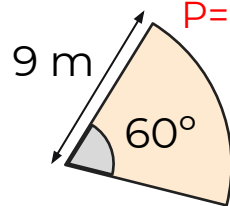
a) $AL=10.5\text{ cm}$ $P=20.5\text{ cm}$



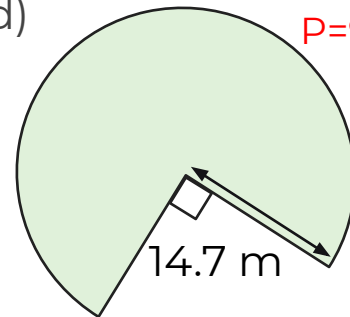
c) $AL=356\text{ mm}$ $P=526\text{ mm}$



b) $AL=9.42\text{ m}$ $P=27.4\text{ m}$

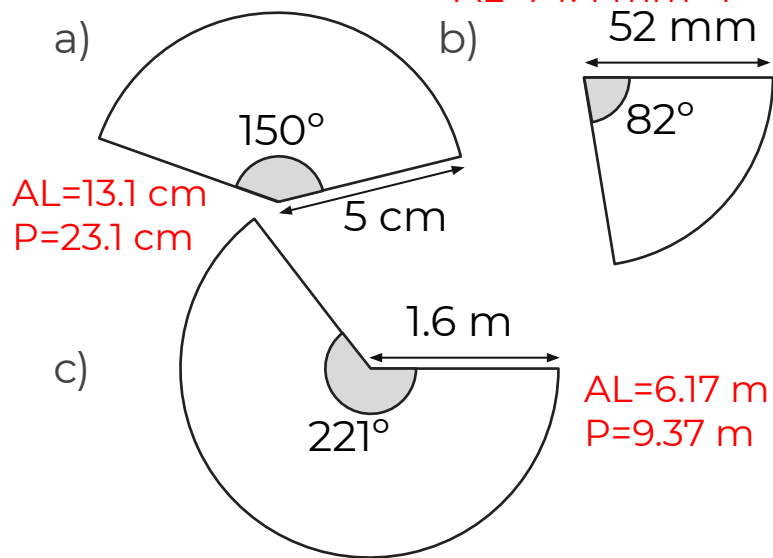


d) $AL=69.3\text{ m}$ $P=98.7\text{ m}$



Find the length of an arc and the perimeter of a sector

4. Find the arc length and the perimeter for each sector, correct to 3 significant figures. **AL=74.4 mm P=178 mm**



5. OPQ and ORS are sectors of circles with centre O. Angle POQ is 80° .

OS = 7 cm and SQ = 3 cm.

Find the perimeter of the shaded region, correct to 3 significant figures.

