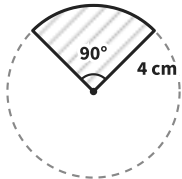


Area of a Sector

1 sector = fraction $\times$ circle area

Find the area of the sector to 1 decimal place.

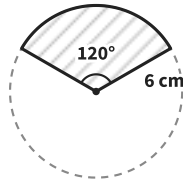


$$\text{Area} = \frac{90}{360} \times \pi \times 4^2$$

fraction of the circle area of the circle

Answer 12.6 cm²

2 Find the area of the sector to 1 decimal place.

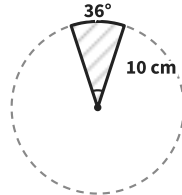


$$\text{Area} = \frac{120}{360} \times \pi \times 6^2$$

fraction of the circle area of the circle

Answer 37.7 cm²

3 Find the area of the sector to 1 decimal place.

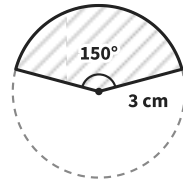


$$\text{Area} = \frac{36}{360} \times \pi \times 10^2$$

fraction of the circle area of the circle

Answer 31.4 cm²

4 Find the area of the sector to 1 decimal place.



$$\text{Area} = \frac{150}{360} \times \pi \times 3^2$$

fraction of the circle area of the circle

Answer 11.8 cm²

5 *Notice the change!*

The circle has diameter 10 cm. Find the area of the sector to 1 decimal place.

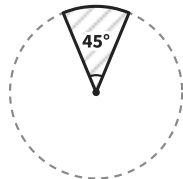


$$\text{Area} = \frac{60}{360} \times \pi \times 5^2$$

fraction of the circle area of the circle

Answer 13.1 cm²

6 The circle has diameter 18 cm. Find the area of the sector to 1 decimal place.



$$\text{Area} = \frac{45}{360} \times \pi \times 9^2$$

fraction of the circle area of the circle

Answer 31.8 cm²

7 A pizza has a radius of 15 cm. It is cut into 6 equal slices. Find the area of one slice to 1 decimal place.

$$\frac{\pi \times 15^2}{6}$$

Answer 117.8 cm²

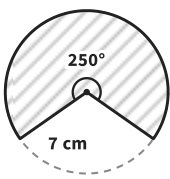
8 A sector of a circle of radius 6 cm has an area of 6π cm². Find the angle of the sector.

the circle is 36π , and 6π is one sixth

Answer 60°

Area of a Sector further practice

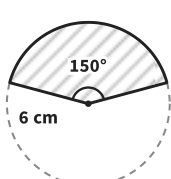
9 Find the area of the sector to 1 decimal place.



$$\frac{250}{360} \times \pi \times 7^2$$

Answer 106.9 cm²

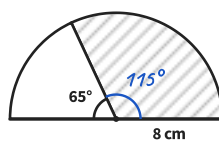
10 Find the area of the sector. Give your answer in terms of π .



$$\frac{150}{360} \times \pi \times 6^2 = 15\pi$$

Answer 15π cm²

11 The diagram is a semicircle. Find the area of the shaded sector to 1 decimal place.



$$\text{angle} = 180 - 65 = 115^\circ$$

$$\frac{115}{360} \times \pi \times 8^2$$

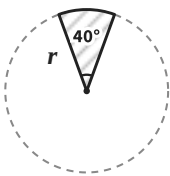
Answer 64.2 cm²

12 A garden sprinkler turns through 110° and sprays water up to 5 m away. What area of lawn does it water? Give your answer to 1 decimal place.

$$\frac{110}{360} \times \pi \times 5^2$$

Answer 24.0 m²

13 The area of the sector is 4π cm². Find the radius, r .

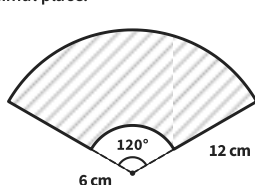


$$\text{whole circle} = 4\pi \times 9 = 36\pi$$

$$r^2 = 36$$

$r =$ 6 cm

14 A paper fan is the shaded shape. It is a sector of a circle with a smaller sector cut out. Find its area to 1 decimal place.

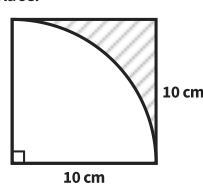


$$\text{big radius } 6 + 12 = 18 \text{ cm}$$

$$\frac{120}{360} \times \pi \times (18^2 - 6^2) = 96\pi$$

Area 301.6 cm²

15 A tile is a square. A quarter circle is drawn from one corner. Find the area of the shaded part of the tile to 1 decimal place.



$$\text{quarter circle} = \pi \times 10^2 \div 4 = 78.540$$

$$100 - 78.540$$

Answer 21.5 cm²

16 Ali cuts a circle of radius 6 cm into 8 equal sectors. Bea cuts a circle of radius 12 cm into 32 equal sectors. Ali says Bea's sectors must be smaller, because she cut her circle into more pieces. Is Ali right? Explain.

$$\text{Ali: } 36\pi \div 8 = 4.5\pi \text{ cm}^2$$

$$\text{Bea: } 144\pi \div 32 = 4.5\pi \text{ cm}^2$$

Answer No, they are the same