

Maths

# Find the area of a sector

Miss Parnham



# Find the area of a sector

1. Match each area formula to a shape.

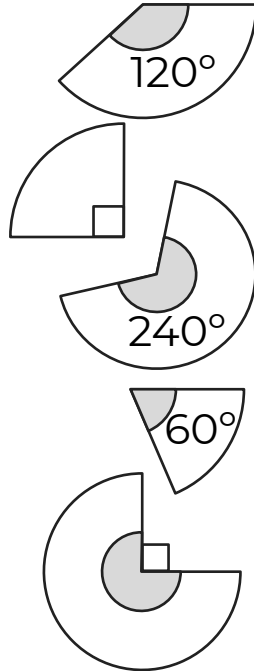
$$\frac{\pi r^2}{4}$$

$$\frac{\pi r^2}{6}$$

$$\frac{3\pi r^2}{4}$$

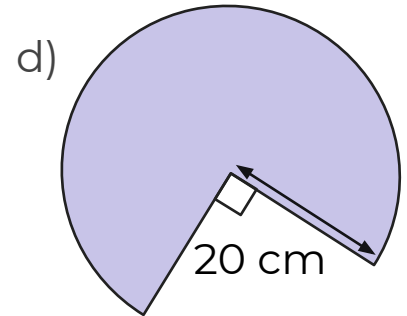
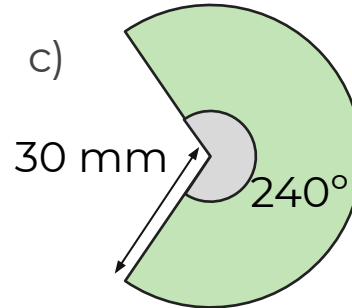
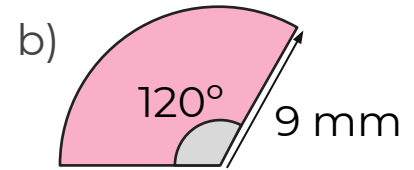
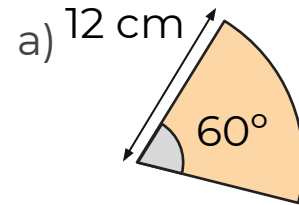
$$\frac{\pi r^2}{3}$$

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



2. Find the area of these sectors.

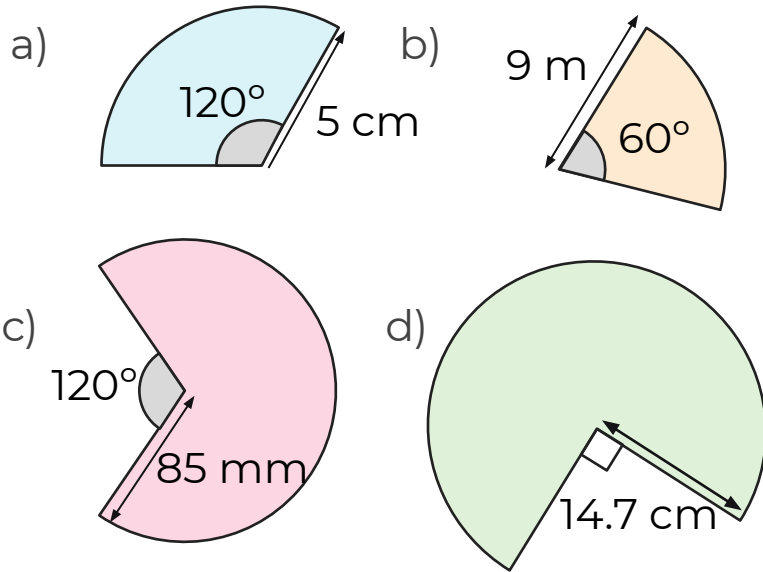
Give your answers in terms of  $\pi$ .



# Find the area of a sector

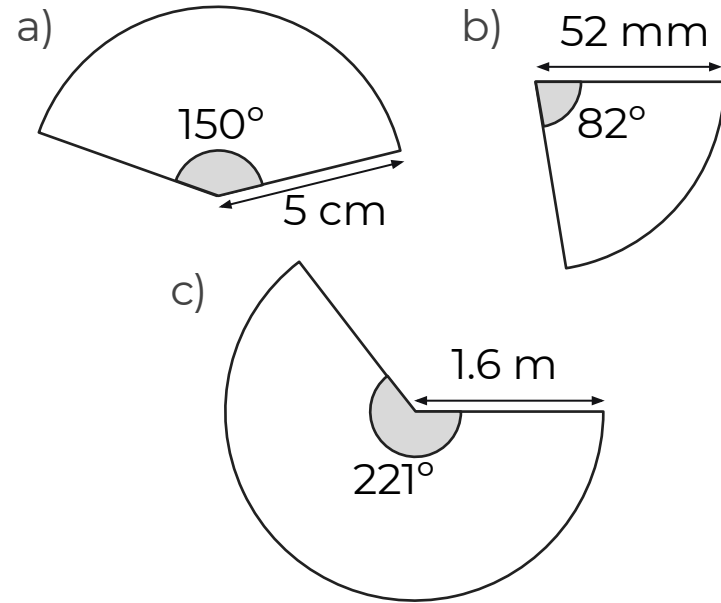
3. Find the area of the sectors.

Give answers to 3 significant figures.



4. Find the area of the sectors.

Give answers to 3 significant figures.



# Answers



# Find the area of a sector

1. Match each area formula to a shape.

Formulas (left):

- $\frac{\pi r^2}{4}$
- $\frac{\pi r^2}{6}$
- $\frac{3\pi r^2}{4}$
- $\frac{\pi r^2}{3}$
- $\frac{2\pi r^2}{3}$

Shapes (right):

- Sector with angle  $120^\circ$
- Sector with angle  $90^\circ$
- Sector with angle  $240^\circ$
- Sector with angle  $60^\circ$
- Sector with angle  $90^\circ$

Connections (red lines):

- $\frac{\pi r^2}{4}$  connects to the  $120^\circ$  sector.
- $\frac{\pi r^2}{6}$  connects to the  $60^\circ$  sector.
- $\frac{3\pi r^2}{4}$  connects to the  $240^\circ$  sector.
- $\frac{\pi r^2}{3}$  connects to the  $90^\circ$  sector (top right).
- $\frac{2\pi r^2}{3}$  connects to the  $90^\circ$  sector (bottom right).

2. Find the area of these sectors.

Give your answers in terms of  $\pi$ .

a)  $12\text{ cm}$ ,  $60^\circ$ ,  $24\pi\text{ cm}^2$

b)  $9\text{ mm}$ ,  $120^\circ$ ,  $27\pi\text{ mm}^2$

c)  $30\text{ mm}$ ,  $240^\circ$ ,  $600\pi\text{ mm}^2$

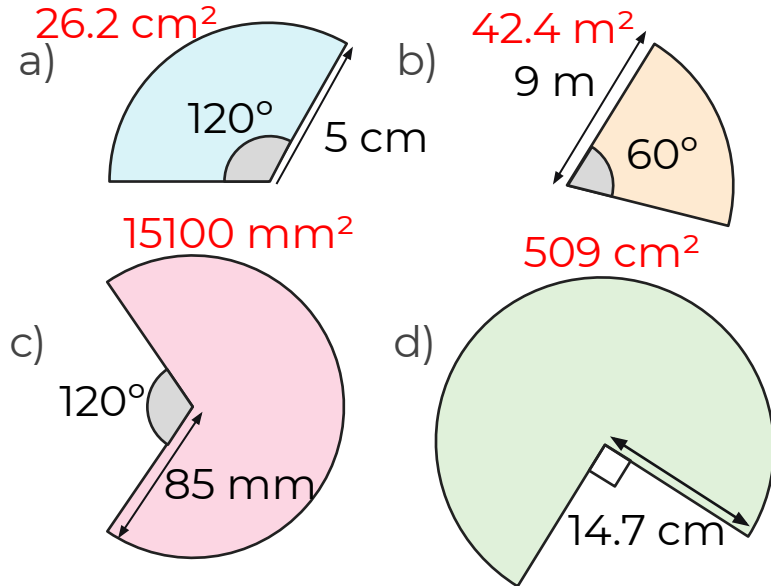
d)  $20\text{ cm}$ ,  $300\pi\text{ cm}^2$



# Find the area of a sector

3. Find the area of the sectors.

Give answers to 3 significant figures.



4. Find the area of the sectors.

Give answers to 3 significant figures.

