Exam Style Questions

Area of a Sector

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser
You may use tracing paper if needed

Guidance

1. Read each question carefully before you begin answering it.
2. Don’t spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

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Video 46
1. The diagram shows a sector of a circle with radius 7cm.

Work out the area of the sector.
Give your answer correct to 2 decimal places.

\[ \text{Area} = \frac{80}{360} \pi r^2 = \frac{80}{360} \pi (7)^2 \]

\[ \text{Area} = \frac{80}{360} \times 153.94 \approx 31.54 \text{ cm}^2 \]

2. The diagram shows a major sector of a circle with radius 3.8cm.

Find the area of the major sector.
Give your answer to 3 significant figures.

\[ \text{Area} = \frac{290}{360} \pi r^2 = \frac{290}{360} \pi (3.8)^2 \]

\[ \text{Area} = \frac{290}{360} \times 146.55 \approx 109.82 \text{ cm}^2 \]
3. OAB is a sector of a circle.

Find the area of the sector.
Give your answer in terms of $\pi$.

\[ \text{...............cm}^2 \]  
(3)

4. Shown is a major sector of a circle.

Find the area of the major sector.
Give your answer in terms of $\pi$.

\[ \text{...............cm}^2 \]  
(3)
5. Shown below is a sector of a circle, with radius \( x \) cm.

\[ \text{The area of the sector is } 18\pi \text{ cm}^2 \]

Find the length of \( x \).

\[ \text{...cm} \quad (3) \]

6. The area of the sector below is 2.48 cm\(^2\)

\[ \text{Find the length of } y \]

Give your answer to 1 decimal place.

\[ \text{...cm} \quad (3) \]
7. Below is a sector of a circle with area $5\pi \text{ cm}^2$.

Find the size of angle $\theta$.

8. Shown is a sector of a circle.

Find the area of the sector.
Give your answer in terms of $\pi$.
9. Shown is a sector of a circle with radius 9.2 cm.

The area of the sector is 38.4 cm²

Find the size of angle \( \theta \)
Give your answer to 2 significant figures.

\[ \theta \]

..................°

(3)
The shot putt throwing area, on a school's sport field, is formed from the sectors of two circles with centre C.

The area of sector CDG is 1.2m².

Calculate the area of the shaded region.
Give your answer correct to 2 significant figures.

........................m²

(5)
The area of the major sector is 180cm².

Calculator the perimeter of the major sector.
Give your answer to 1 decimal place.

.........................cm
(5)