Exam Style Questions

Area of a Semi-Circle

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 47
1. Shown is a semi-circle.

![Diagram of a semi-circle with a diameter of 6cm.]

Work out the area. State the units for your answer.

..............................

2. Shown is a semi-circle.

![Diagram of a semi-circle with a diameter of 10cm.]

Work out the area. State the units for your answer.

..............................
3. Below is a semi-circle.

Work out the area of the semi-circle.
Leave your answer in terms of \( \pi \)

\[ \text{cm}^2 \]  

(3)

4. The semi-circle below has an area of 40 cm\(^2\)

Calculate \( y \).

\[ \text{cm} \]  

(3)
5. The semi-circle below has an area of $50\pi \text{ cm}^2$

Calculate $y$.

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

6. Shown below is a compound shape made from a rectangle and semi-circle.

Calculate the area of the shape.

\[ \text{.....................cm}^2 \]  
\[ \text{(3)} \]
7. The side of a wooden shed is shown below. There is a semi-circular glass window, 5m wide.

Not to scale

James wants to paint the shed.
Each tin costs £1.99 and covers 5m²

Work out the total cost to paint the shed.

£..........................

(5)
8. A goat is in a square field which has length 12m. The goat is tied to the middle of a 12m fence on one side with a 5m rope.

Work out the percentage of the field the goat can reach.

..........................%

(5)
9. Shown below is a 400m running track.

Calculate the area inside the running track.

...........................................m²
(4)
The semi-circle and square have the same area.

Calculate the side length of the square.

\[ \text{................................................................cm} \]

(4)