JP Maths Revision

Attempt the paper before watching the solutions https://www.youtube.com/@JPMathsRevision

Foundation / Higher Tier

Area and Circumference of Circles

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Information

- The marks for **each** question are shown in brackets- *use this as a guide as to how much time to spend on each question.*

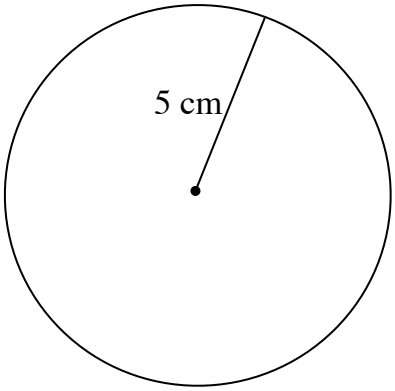
Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

1. A circle has a radius of 5 cm.

Work out the circumference of the circle.

Leave your answer in terms of π



cm

.....

(Total for Question 1 is 2 marks)

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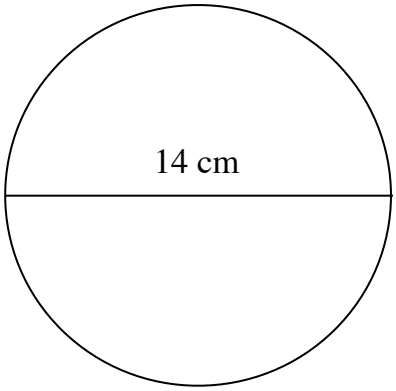
2. A circle has a diameter of 14 cm.

Work out the area of the circle.

Leave your answer in terms of π.



cm^2

.....

(Total for Question 2 is 2 marks)

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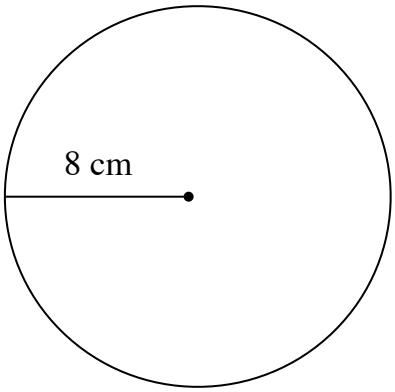
3. A circle has a radius of 8 cm.

Work out the area of the circle.

Give your answer to 3 significant figures.



cm^2

.....

(Total for Question 3 is 2 marks)

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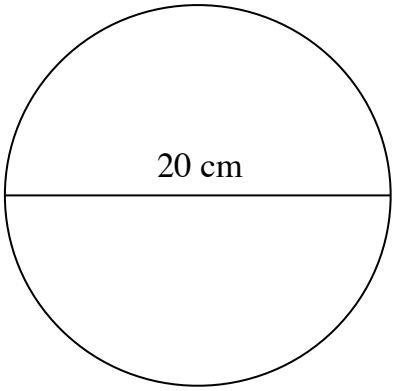
4. A circle has a diameter of 20 cm.

Work out the circumference of the circle.

Give your answer to 3 significant figures.



cm

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(Total for Question 4 is 2 marks)

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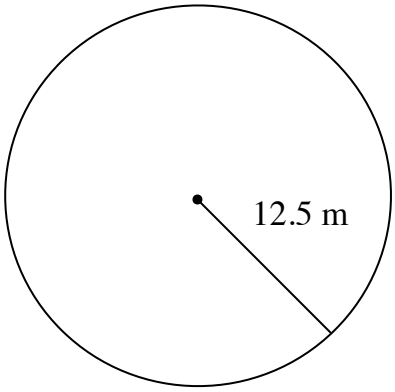
5. A circle has a radius of 12.5 m.

Work out the circumference of the circle.

Give your answer to 3 significant figures.



cm

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(Total for Question 5 is 2 marks)

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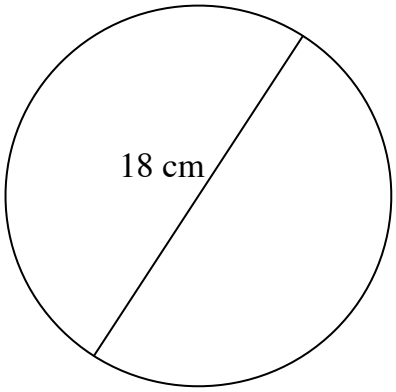
6. A circle has a diameter of 18 cm.

Work out the area of the circle.

Give your answer to 3 significant figures.



cm^2

.....

(Total for Question 6 is 2 marks)

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7. The circumference of a circle is 50.3 cm

Work out the diameter of the circle.

Give your answer to 3 significant figures.

cm

.....

(Total for Question 7 is 3 marks)

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8. The area of a circle is 154 cm^2

Work out the radius of the circle.

Give your answer to 3 significant figures.

cm

.....

(Total for Question 8 is 3 marks)

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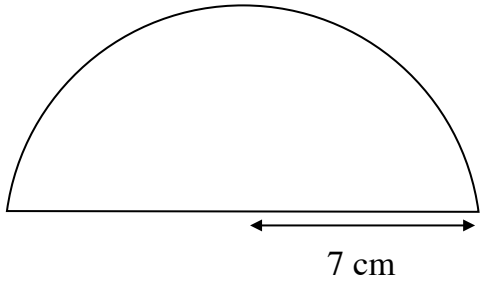
9. A semicircle has a radius of 7 cm.

Work out the area of the semicircle.

Give your answer to 3 significant figures.



.....cm^2

(Total for Question 9 is 2 marks)

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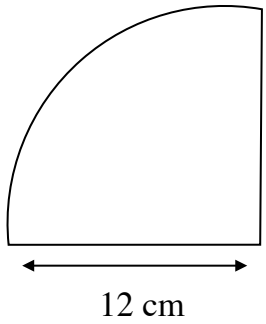
10. A quarter circle has a radius of 12 cm.

Work out the perimeter of the quarter circle.

Give your answer to 3 significant figures.



.....cm

(Total for Question 10 is 2 marks)

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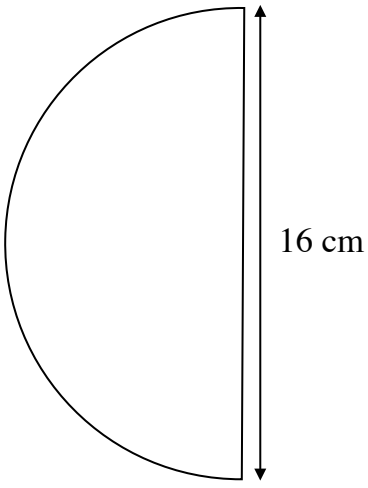
11. A semicircle has a diameter of 16 cm.

Work out the perimeter of the semicircle.

Give your answer to 3 significant figures.



.....cm

(Total for Question 11 is 3 marks)

12. A circular flower bed has a radius of 4.5 m.

The flower bed is covered with soil.

Soil costs £6 per square metre.

Work out the total cost of covering the flower bed.

Give your answer to the nearest penny.

£ .....

(Total for Question 12 is 3 marks)

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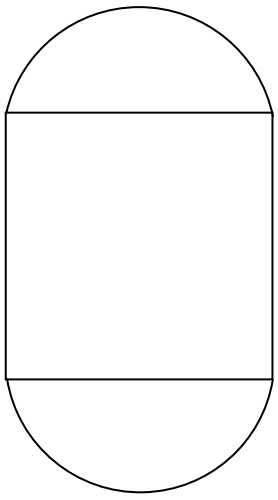
13. A running track is made from a rectangle and two semicircles.



The rectangle is 60 m long and 20 m wide.

The semicircles are attached to the shorter sides of the rectangle.

Work out the total perimeter of the track.

Give your answer to 3 significant figures.

..... m

(Total for Question 13 is 3 marks)

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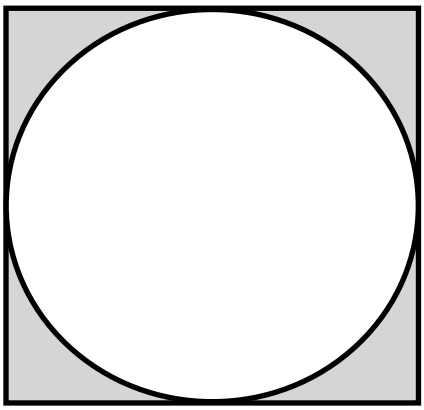
14. A square has side length 14 cm

Inside the square is a circle that touches all four sides of the square.

Work out the shaded area between the square and the circle.

Give your answer to 3 significant figures.



cm^2

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(Total for Question 14 is 3 marks)