GCSE · Edexcel · Maths

45 mins 16 questions

Exam Questions

Exact Values

Exact Values

Easy (5 questions)	/13
Medium (5 questions)	/12
Hard (6 questions)	/20
Total Marks	**/45**

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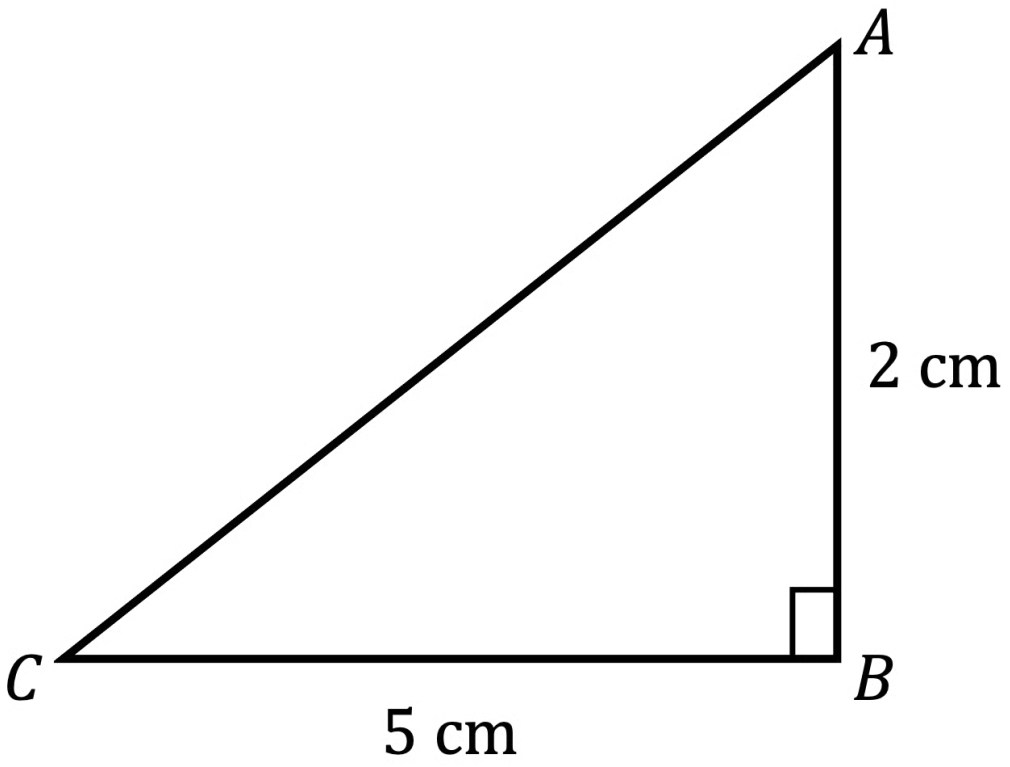
Easy Questions

1 Triangle ABC is a right-angled triangle.



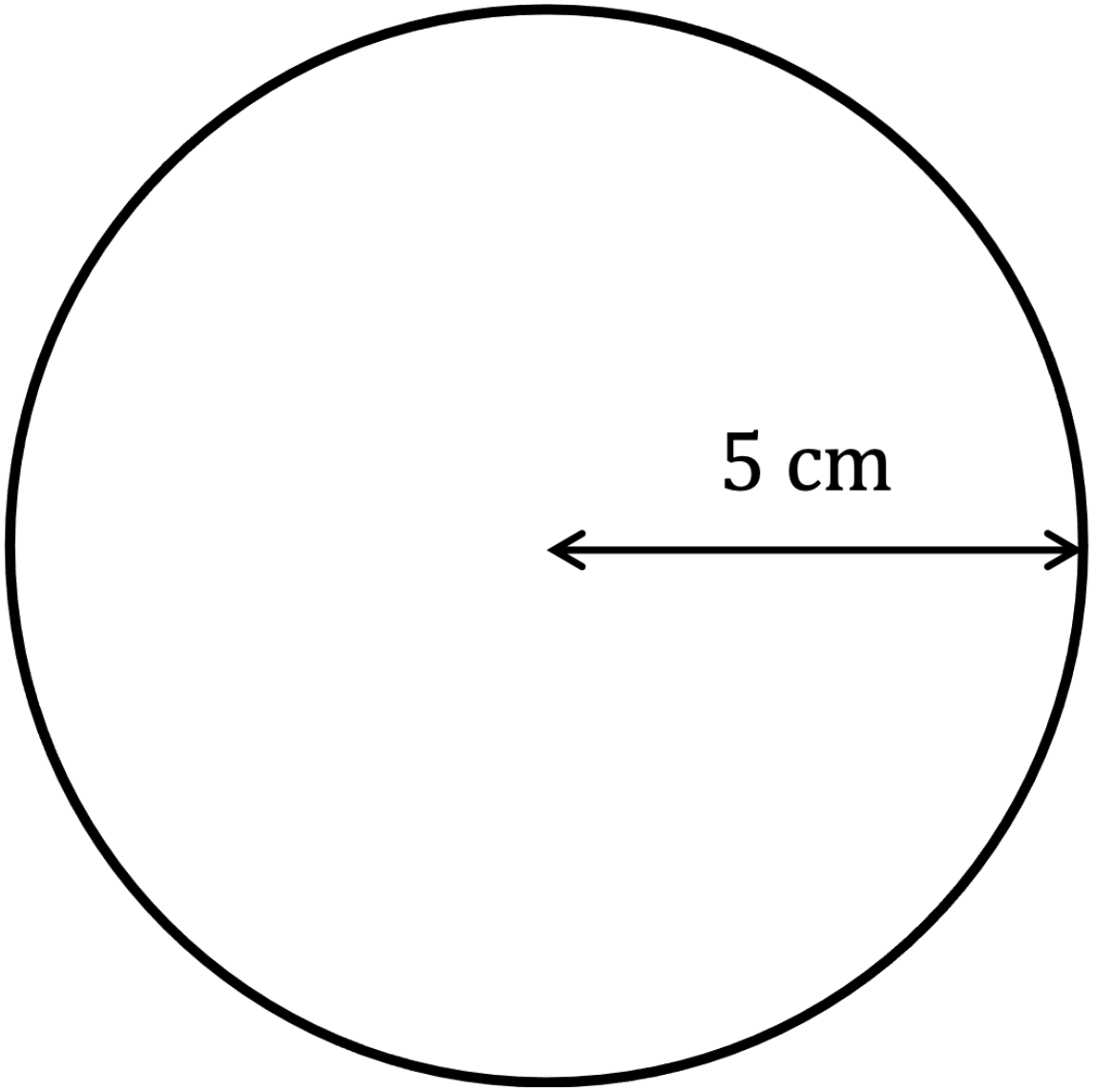
$AB = 2$ cm.
$BC = 5$ cm.

Work out the length AC.
Give your answer as an exact value.

$AC =$ ..... cm

(3 marks)

2 A circle has a radius of 5 cm.

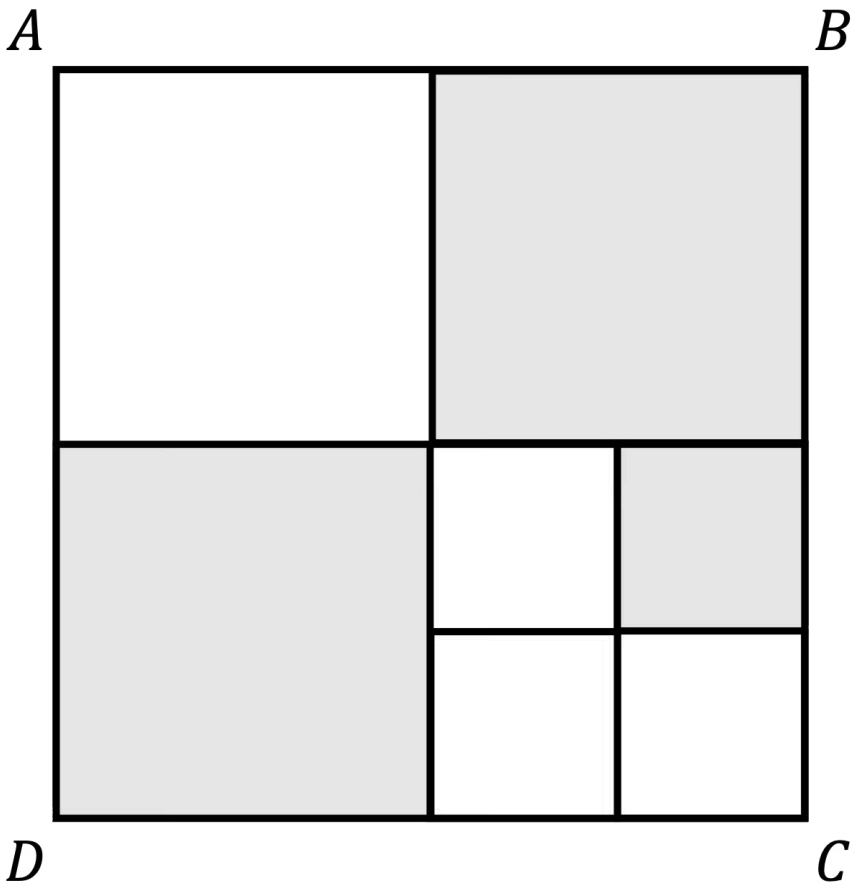


Calculate the area of the circle.
Give your answer in terms of π.

..... cm^2

(2 marks)

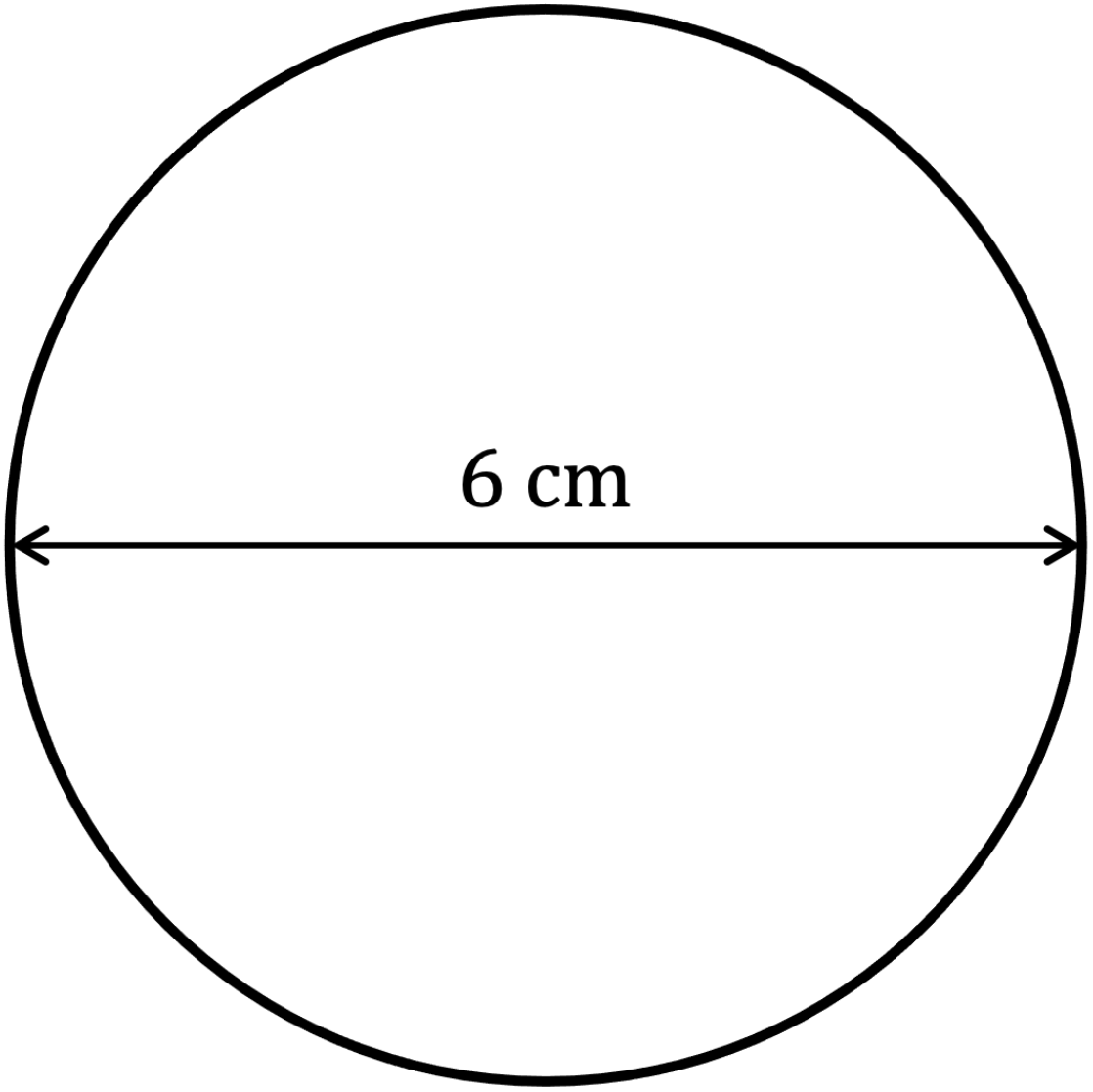
3 $ABCD$ is a square.
All shapes within $ABCD$ are also squares.



What fraction of the square $ABCD$ is shaded?

(3 marks)

4 A circle has a diameter of 6 cm.

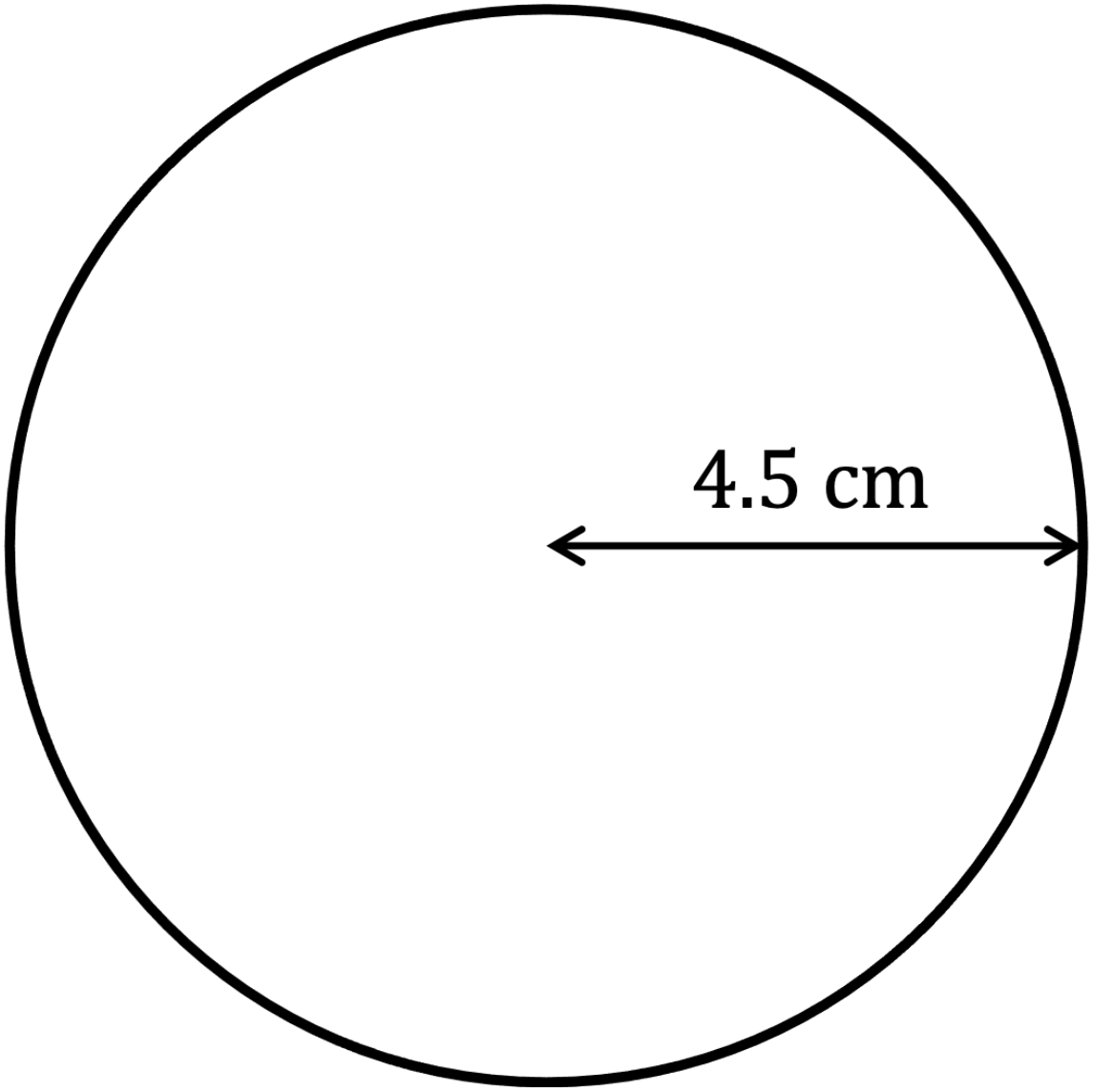


Work out the area of the circle.
Give your answer in terms of π.

..... cm^2

(3 marks)

5 A circle has a radius of 4.5 cm.



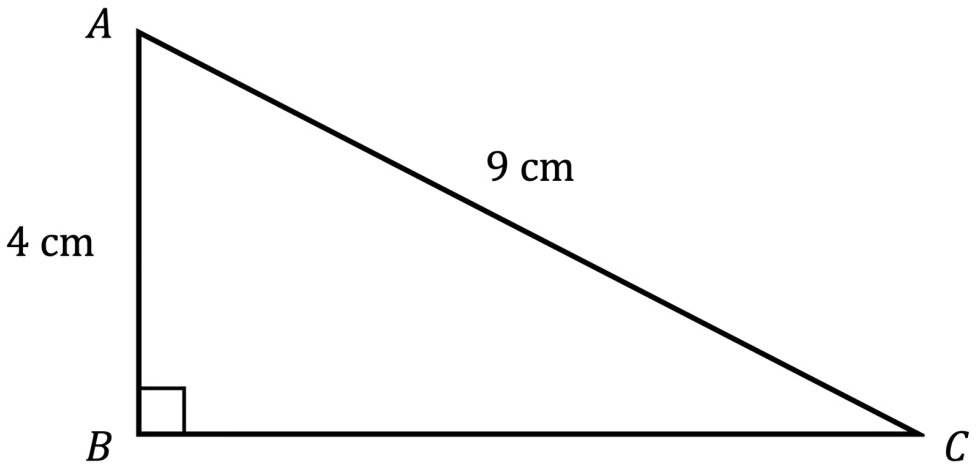
Work out the circumference of the circle.
Give your answer as an exact value.

..... cm

(2 marks)

Medium Questions

1 Triangle ABC is a right-angled triangle.



$AB = 4$ cm.
$AC = 9$ cm.

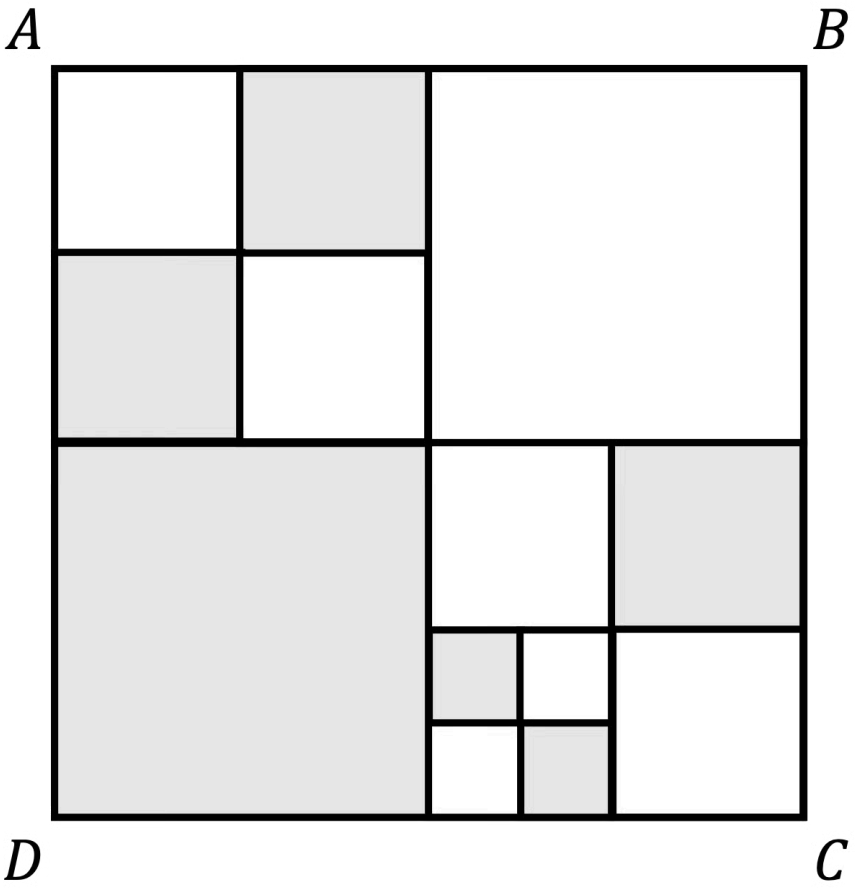
Work out the length BC.
Give your answer as an exact value.

$BC =$ ..... cm

(3 marks)

2 $ABCD$ is a square.

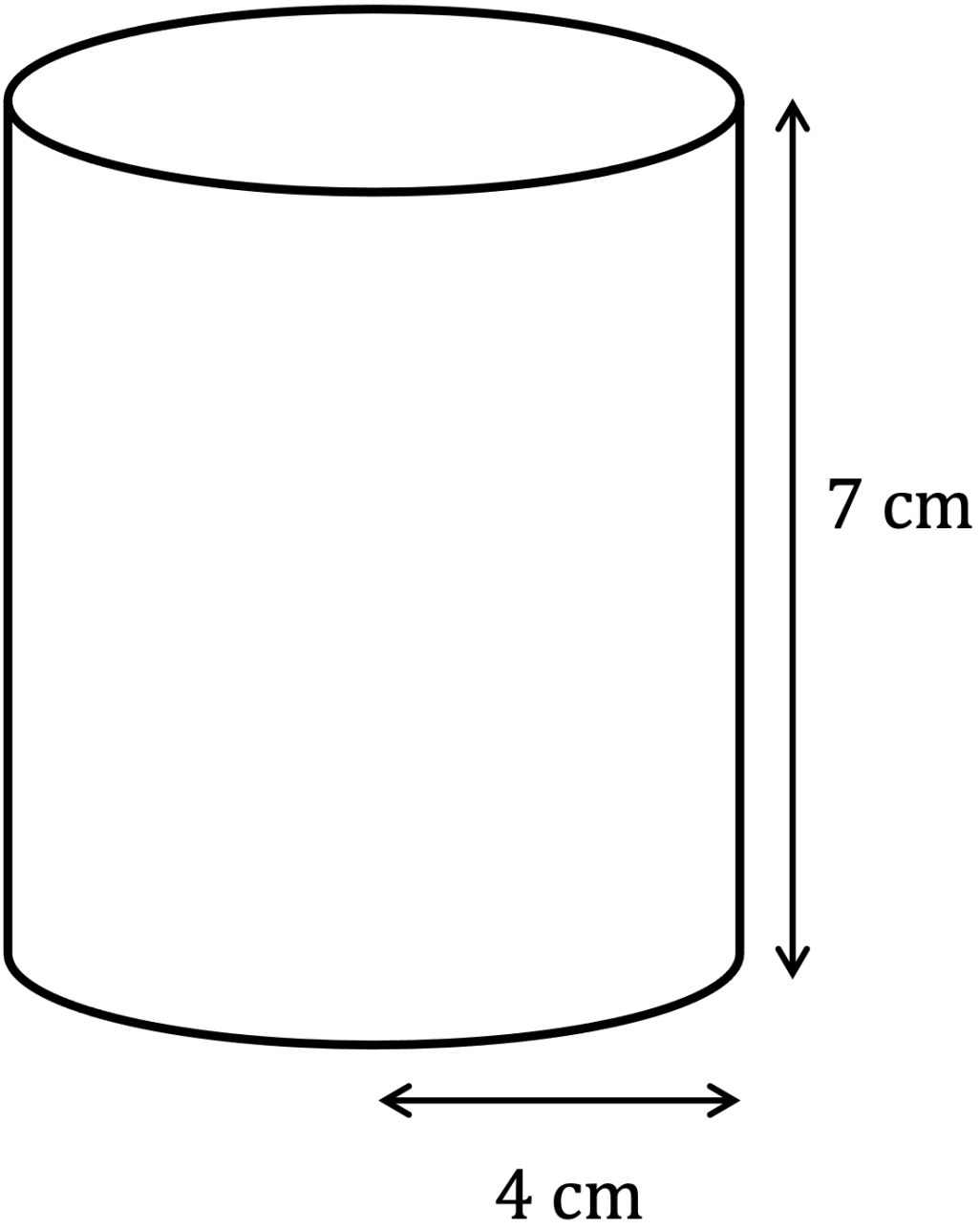
All shapes within $ABCD$ are also squares.



What fraction of the square $ABCD$ is shaded?

(3 marks)

3 A cylinder has a radius of 4 cm and a height of 7 cm.

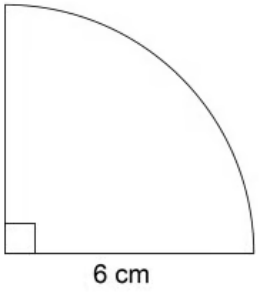


Find the volume of the cylinder.
Leave your answer in terms of π.

..... cm^3

(2 marks)

4 Here is a quarter circle of radius 6 cm



Not drawn accurately

Work out the area of the quarter circle.
Give your answer in terms of π.

.....cm^2

(2 marks)

5 A circular table top has radius 70 cm.

Calculate the area of the table top in cm^2, giving your answer as a multiple of π.

..... cm^2

(2 marks)

Hard Questions

1 Triangle ABC has perimeter $8+\sqrt{34}$ cm.

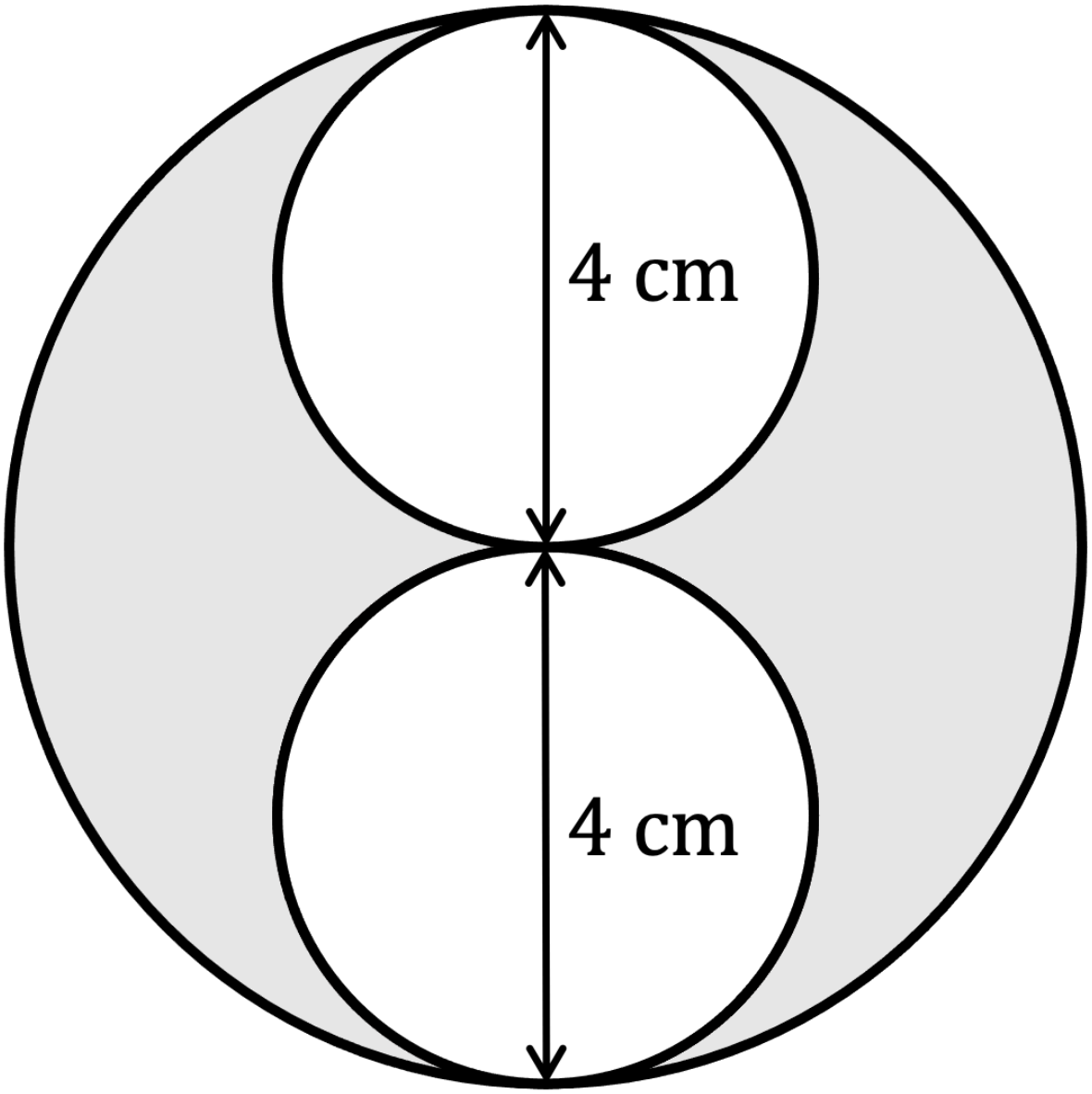
$AB = 3$ cm.
$BC = 5$ cm.

By calculation, deduce whether triangle ABC is a right-angled triangle.

(4 marks)

2 The diagram shows two identical circles of diameter 4 cm inside another circle.

The two identical circles both touch the circumference of the larger circle and meet at its centre.

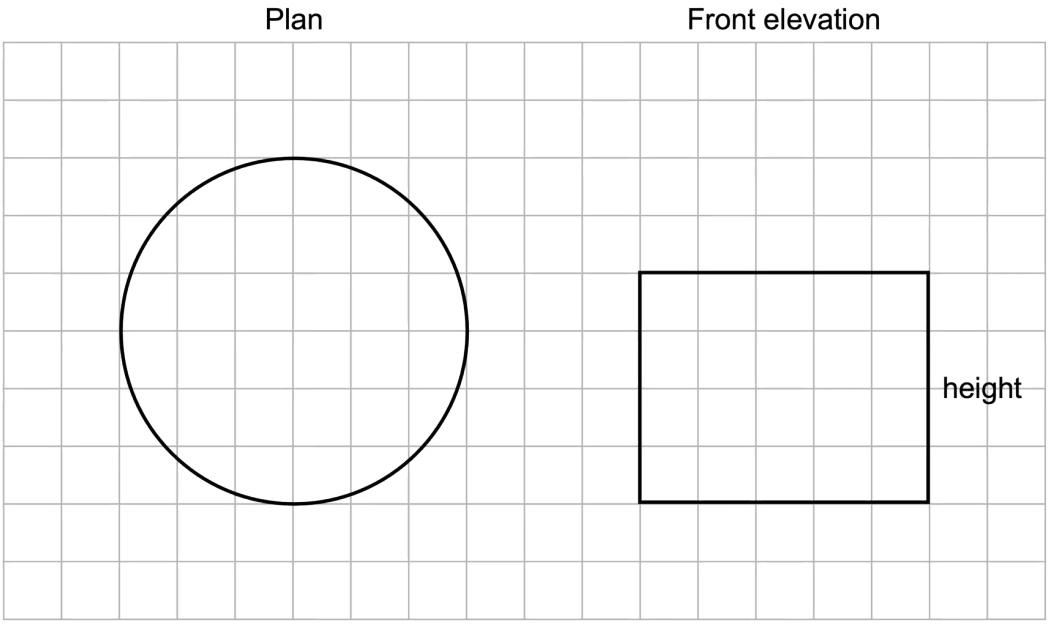


Frances says that exactly $\frac{1}{2}$ of the diagram is shaded. Is she correct?

You must show all your working.

(4 marks)

3 The centimetre grid shows the plan and elevation of a cylinder.
1 square length on the grid represents 1 cm.



Work out the volume of the cylinder.
Give your answer in terms of π.

..... cm^3

(3 marks)

4 The diagram shows a circle drawn inside a square.

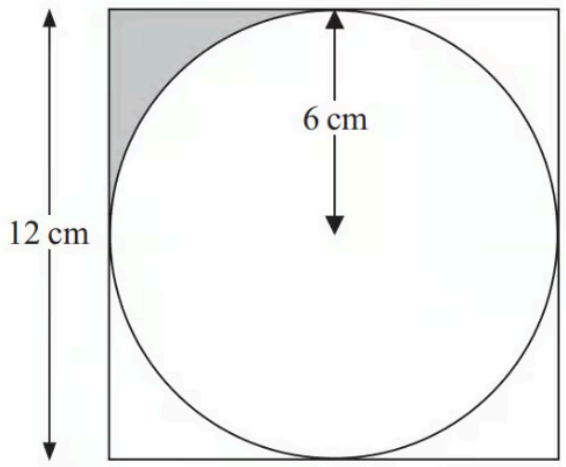


Diagram **NOT** accurately drawn

The circle has a radius of 6 cm.
The square has a side of length 12 cm.

Work out the shaded area.
Give your answer in terms of π.

(3 marks)

5 The diagram shows a circle inside a square.

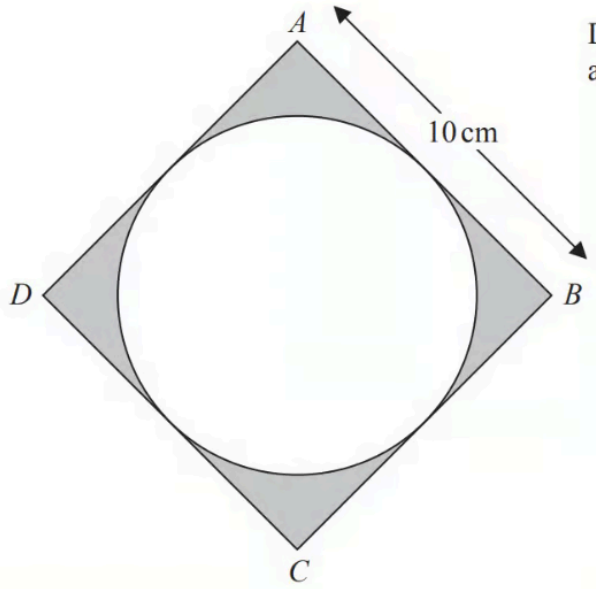


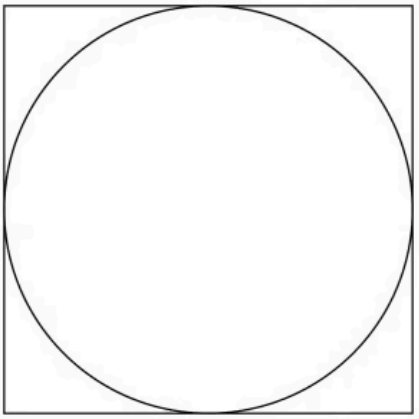
Diagram **NOT** accurately drawn

$ABCD$ is a square of side 10cm.
Each side of the square is a tangent to the circle.

Work out the total area of the shaded regions in terms of π.
Give your answer in its simplest form.

(3 marks)

6 Here is a circle touching a square.



Not drawn accurately

The area of the square is 64 cm^2

Work out the area of the circle.

Give your answer in terms of π.

..... cm^2

(3 marks)