



EXAM PAPERS PRACTICE

GCSE OCR Math J560

Circles Area & Circumference

Question Paper

"We will help you to

achieve A Star "



Question 1

A circle has a diameter of 140 cm.

Work out the circumference of the circle.

Give your answer correct to 3 significant figures.

[2 marks]

Question 2

A circle has a diameter of 7.6 cm.

Work out the circumference of the circle.

Give your answer correct to 3 significant figures.

[2 marks]

Question 3

The radius, 7.6 cm, is correct to 1 decimal place.

(b) (i) Write down the upper bound of the radius.

(ii) Write down the lower bound of the radius.

[2 marks]



Question 4

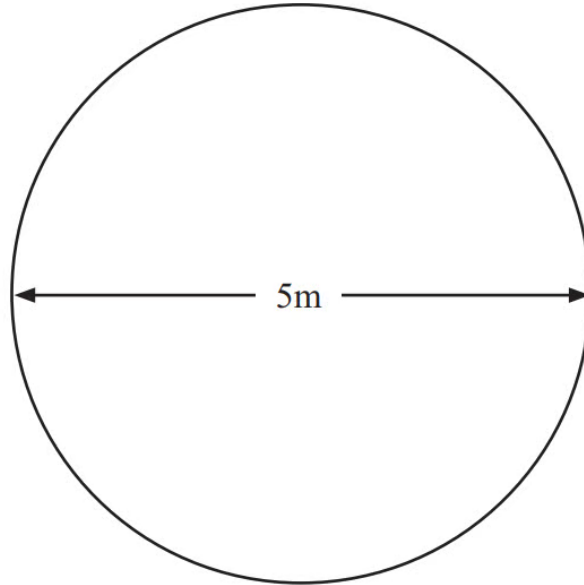


Diagram **NOT**
accurately drawn

Jon has a flower garden in the shape of a circle.
The diameter of the garden is 5 metres.

Jon wants to put fencing around the edge of the garden.
The fencing costs £1.80 per metre.

Work out the total cost of the fencing.

£.....

[3 marks]



Question 5

Here is a circle.

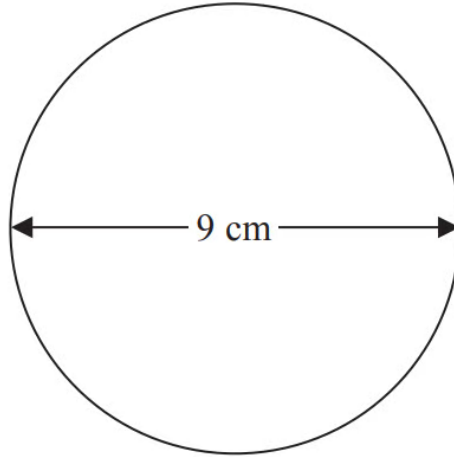


Diagram **NOT**
accurately drawn

The diameter of the circle is 9 cm.

Work out the circumference of this circle.

Give your answer correct to 3 significant figures.

[2 marks]



Question 6

The diagram shows a circle inside a square.

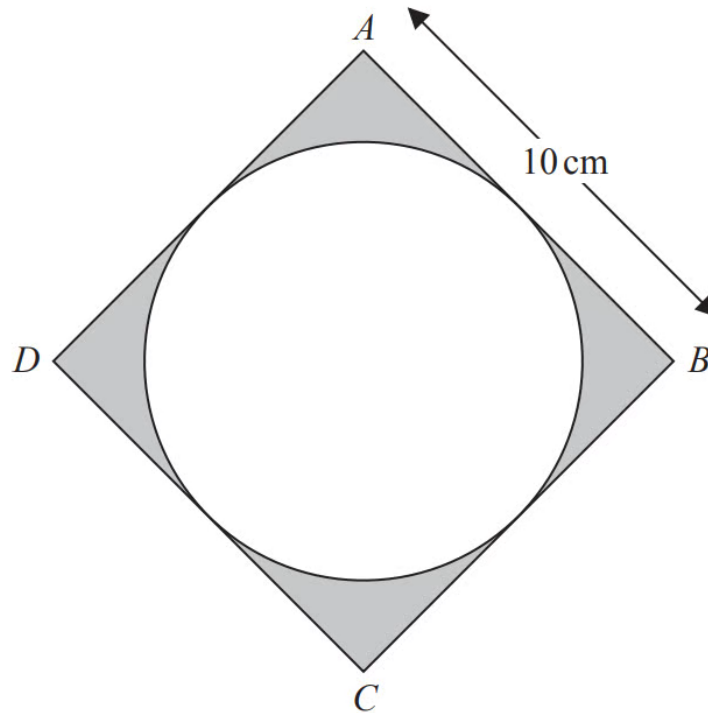


Diagram **NOT**
accurately drawn

$ABCD$ is a square of side 10 cm.
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]



Question 7

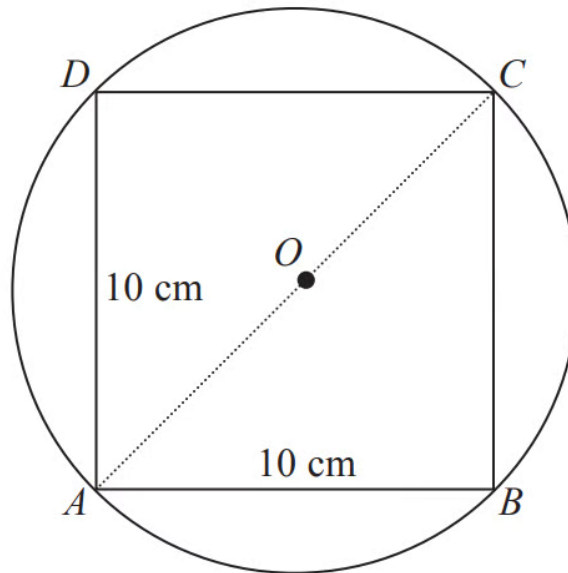


Diagram **NOT** accurately drawn

The diagram shows a square $ABCD$ drawn inside a circle, centre O .
 A , B , C and D are points on the circle.
The lengths of the sides of the square are 10 cm.
 AC is a diameter of the circle.

Calculate the circumference of the circle.
Give your answer correct to 3 significant figures.

[4 marks]

Question 8

The wheel takes 30 minutes to rotate once.

- (b) Work out the average speed of a point on the circumference of the wheel as it rotates once.
Give your answer in metres per second correct to 3 significant figures.

[3 marks]



Question 9

The diagram shows a circle drawn inside a square.

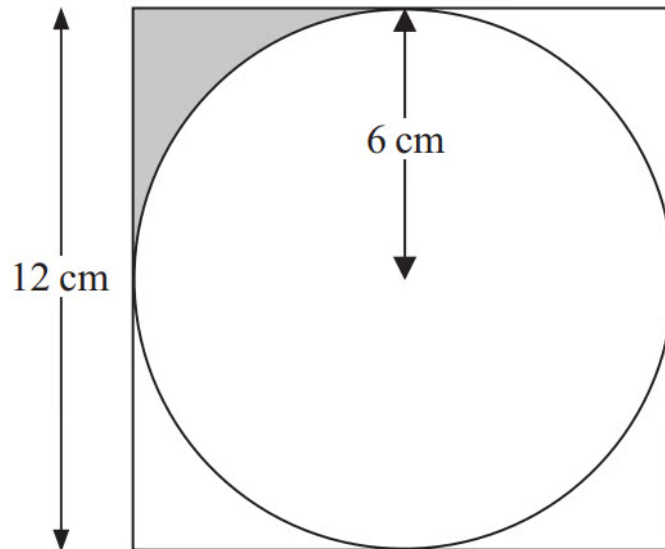


Diagram **NOT**
accurately drawn

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]

Question 10

The diagram shows the top of Levi's birthday cake.

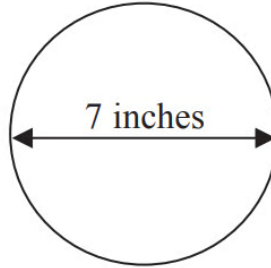


Diagram **NOT**
accurately drawn

The top of the cake is in the shape of a circle.
The diameter of the circle is 7 inches.

A ribbon is going to be put around the side of the cake.
Ribbons are sold in 50 cm lengths.

1 inch is 2.54 cm.

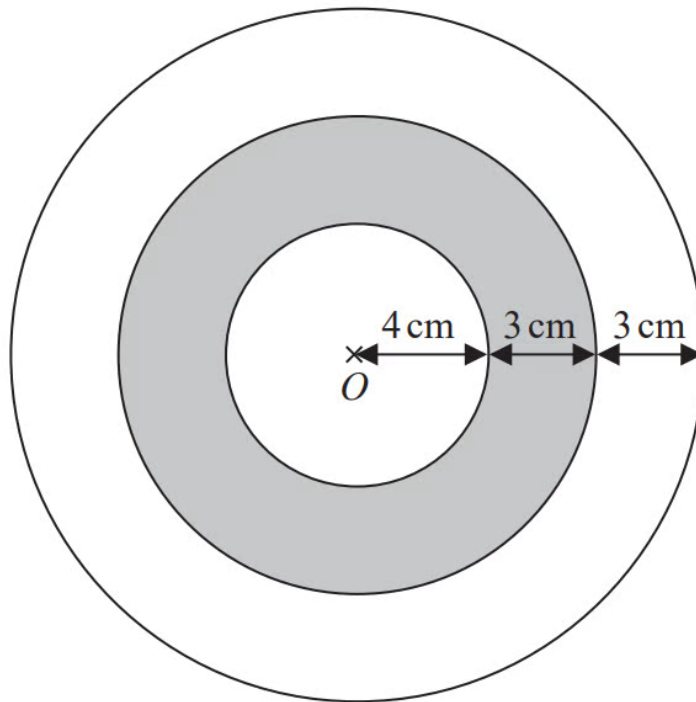
Work out if one length of ribbon is long enough to go all the way around the cake.
You must show your working.

[4 marks]



Question 11

The diagram shows a logo made from three circles.



Each circle has centre O .

Daisy says that exactly $\frac{1}{3}$ of the logo is shaded.

Is Daisy correct?

You must show all your working.

[4 marks]



Question 12

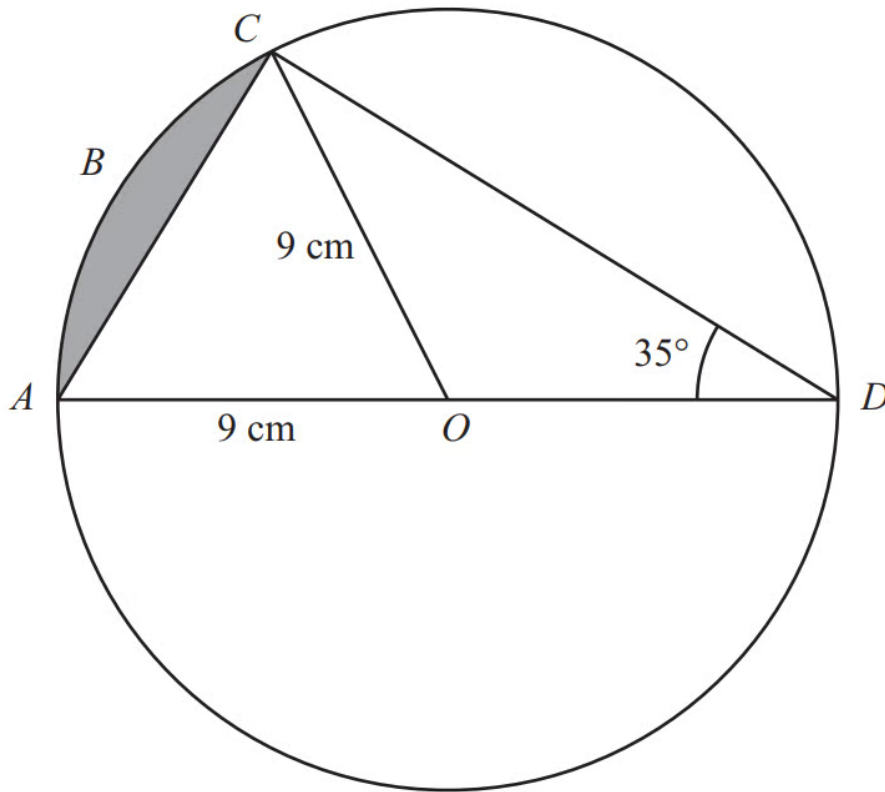


Diagram **NOT**
accurately drawn

AOD is a diameter of a circle, with centre O and radius 9 cm .

ABC is an arc of the circle.

AC is a chord.

Angle $ADC = 35^\circ$

Calculate the area of the shaded segment.

Give your answer correct to 3 significant figures.

[6 marks]

Question 13

- (b) Calculate the area of the pond.
Show your working clearly.
Give your answer correct to 3 significant figures.

[5 marks]

Question 14

The diagram shows a square $ABCD$ inside a circle.

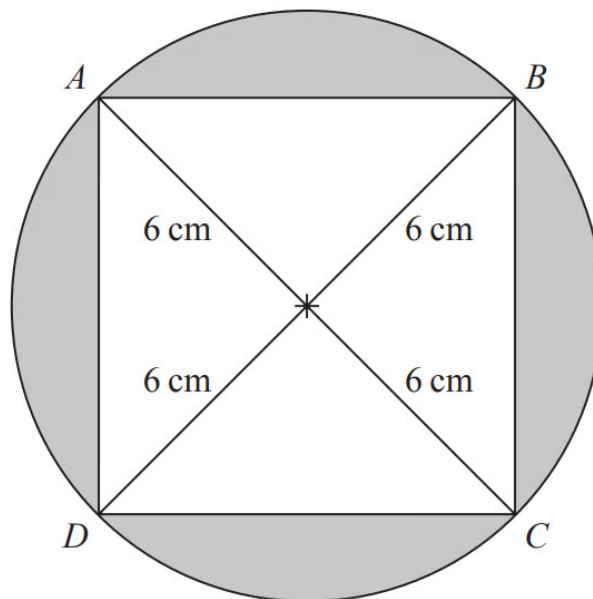


Diagram NOT
accurately drawn

The points A , B , C and D lie on the circle.

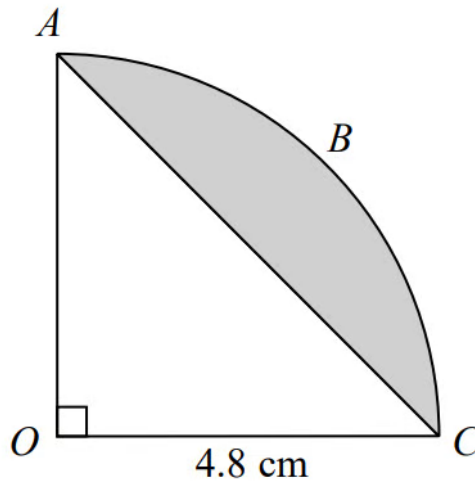
The radius of the circle is 6 cm.

Work out the total area of the shaded regions.
Give your answer correct to 3 significant figures.

[4 marks]



Question 15



The arc ABC is a quarter of a circle with centre O and radius 4.8 cm.
 AC is a chord of the circle.

Work out the area of the shaded segment.
Give your answer correct to 3 significant figures.

[3 marks]