



## Rosary School \ Marj Elhamam

Name : \_\_\_\_\_

Date: / 9 / 2025

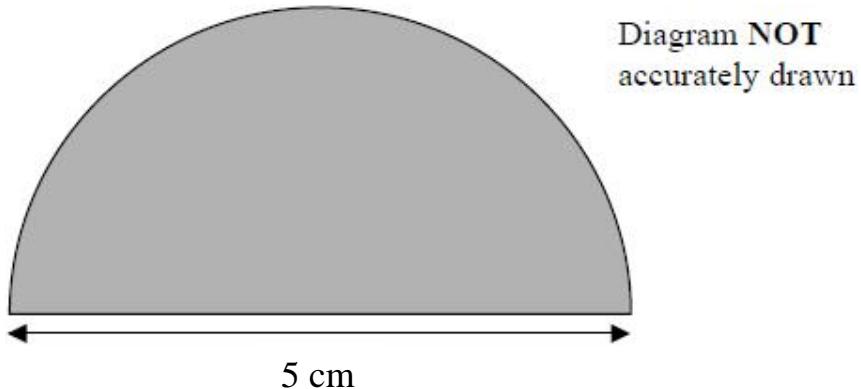
Subject: 2D shapes and 3D solids  
**(Past paper questions)**

Grade :8 ( )

### **Questions**

**Q1.**

A semi-circle has a diameter of 5 cm.



(a) Calculate the area of the semi-circle.

Give your answer to 3 significant figures.

..... cm<sup>2</sup>

(2)

(b) Calculate the perimeter of the semi-circle.

Give your answer to 3 significant figures.

..... cm

(2)

**(Total for question = 4 marks)**  
**(QU21 LMA11/01, SAM 0)**

**Q2.**

(a) A 14 m rope is fastened to the top of a vertical 11 m flagpole.

The other end of the rope is fastened to the horizontal ground.

How far away from the bottom of the flagpole is the rope fastened to the horizontal ground?

Give your answer correct to 3 significant figures.

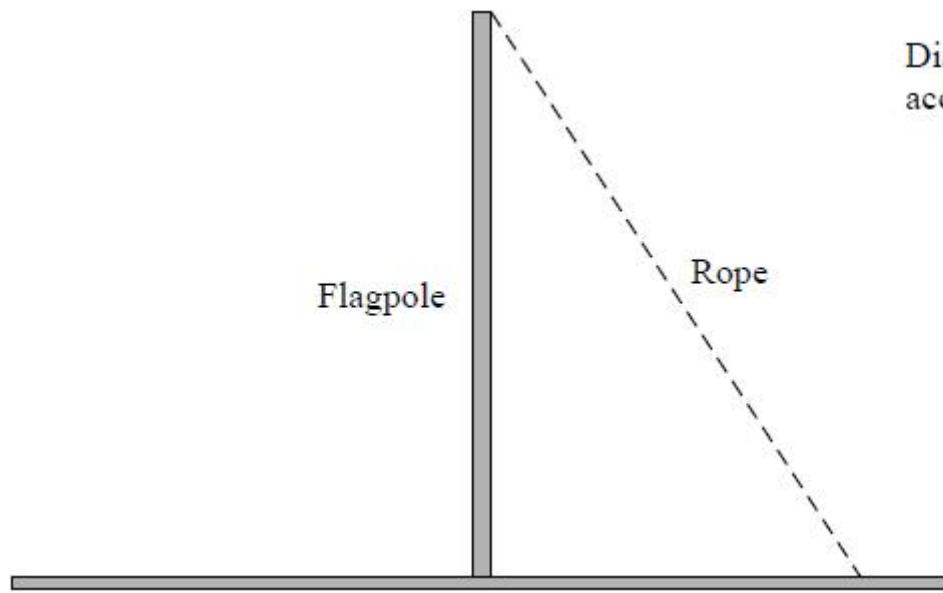


Diagram NOT  
accurately drawn

..... m  
(3)

**(QU32 LMA11/01, SAM 0)**

**Q3.**

(a) Calculate the length BC correct to 3 significant figures.

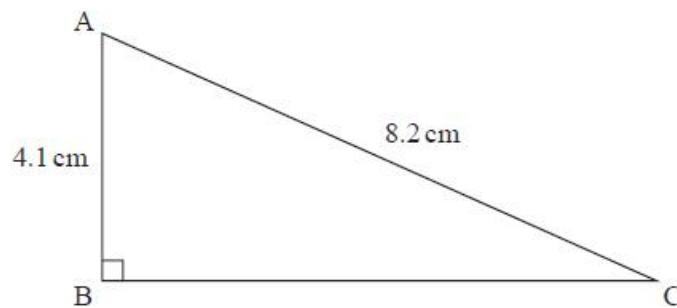


Diagram NOT  
accurately drawn

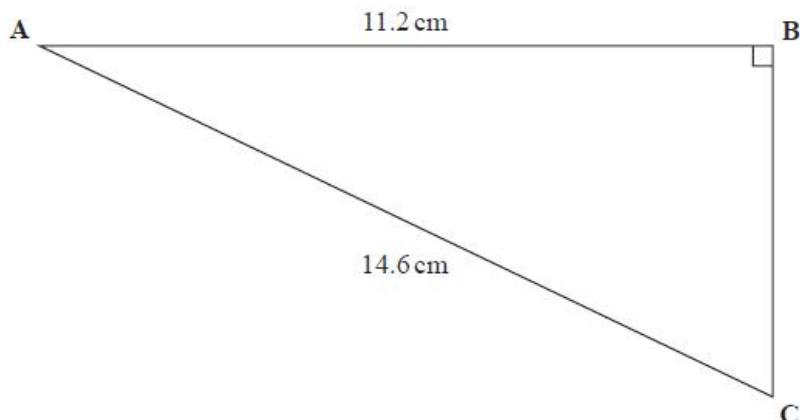
..... cm  
(3)

**(QU28 LMA11/01, Oct 2023)**

**Q4.**

ABC is a triangle.

Diagram NOT accurately drawn



Calculate the length of BC.

Give your answer correct to 3 significant figures.

..... cm

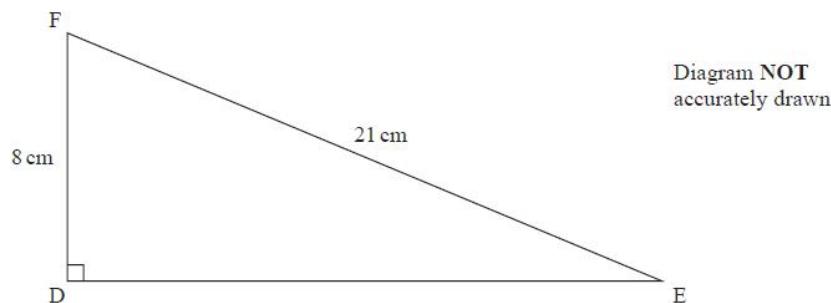
**(Total for question = 3 marks)**

**(QU28 LMA11/01, June 2023)**

**Q5.**

Calculate the length of the side DE.

Give your answer to one decimal place.



..... cm

**(Total for question = 3 marks)**

**(QU26 LMA11/01, June 2021)**

**Q6.**

A plastic semicircle is cut in half to form the shape below.

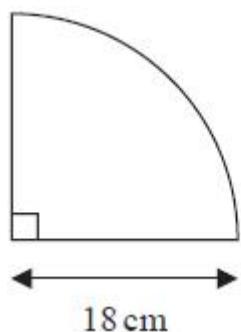


Diagram NOT  
accurately drawn

What is the perimeter of this shape?  
Give your answer correct to 1 decimal place.

..... cm

**(Total for question = 2 marks)**

**(QU23 LMA11/01, Oct 2021)**

**Q7.**

A rectangle and a square have the same area.

The width of the rectangle is 7 cm shorter than the length of the rectangle.

The perimeter of the rectangle is 50 cm.

Calculate the perimeter of the square.

You must show your working.

..... cm

**(Total for question = 4 marks)**

**(QU31 LMA11/01, June 2023)**

**Q8.**

Find the volume of this prism.

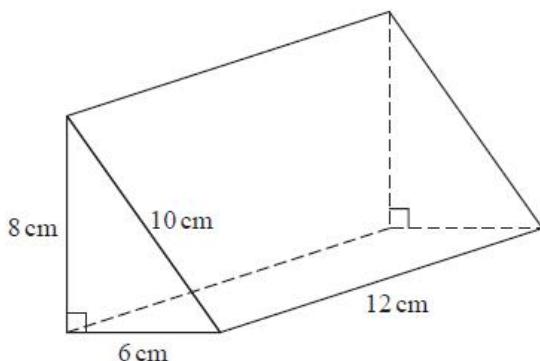


Diagram NOT  
accurately drawn

(Total for question = 3 marks)  
(QU24 LMA11/01, Oct 2020)

**Q9.**

Answer the question with a cross in the box you think is correct . If you change your mind about an answer, put a line through the box  and then mark your new answer with a cross .

What name is given to a straight line that connects two points on the circumference of a circle but does NOT pass through the centre of the circle?

Chord

Diameter

Radius

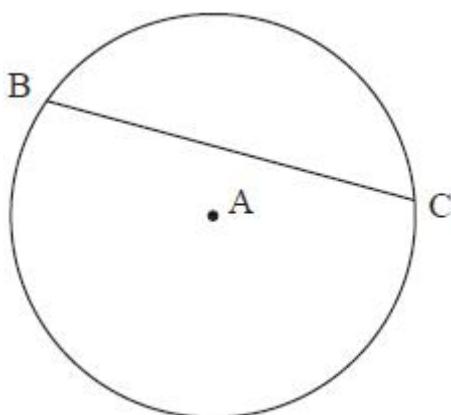
Segment

(Total for question = 1 mark)  
(QU05 LMA11/01, June 2022)

**Q10.**

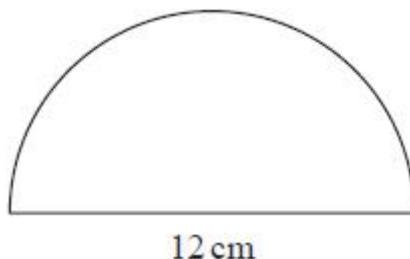
(a) This circle has centre A.

What name is given to the straight line that joins B and C?



.....  
(1)

(b) This diagram shows a semicircular disc.



(i) Calculate the area of the disc.

..... cm<sup>2</sup>  
(2)

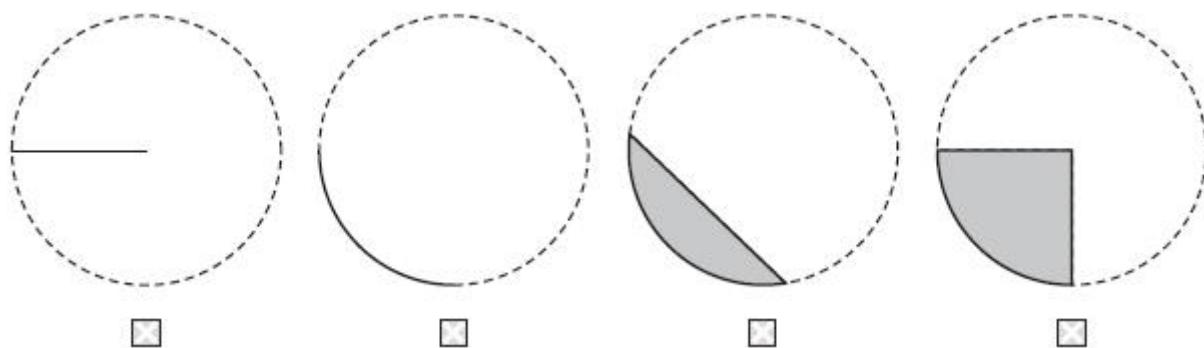
(ii) Calculate the perimeter of the disc.

..... cm  
(2)

(Total for question = 5 marks)  
(QU20 LMA11/01, June 2021)

Q11.

Answer the question with a cross in the box you think is correct . If you change your mind about an answer, put a line through the box  and then mark your new answer with a cross .  
On which of these diagrams is a segment illustrated?



(Total for question = 1 mark)  
(QU04 LMA11/01, Oct 2021)

**Q12.**

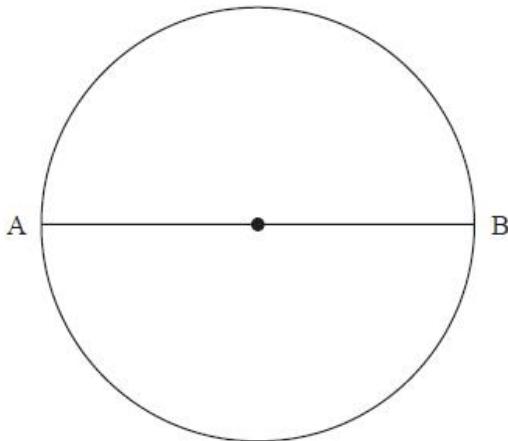


Diagram **NOT**  
accurately drawn

The line AB passes through the centre of the circle.

(a) What mathematical name is given to the line AB?

.....  
(1)

The line AB is 22 cm long.

(b) Calculate the area of the circle.

Give your answer correct to 1 decimal place.

..... cm<sup>2</sup>

(2)

**(Total for question = 3 marks)**  
**(QU18 LMA11/01, Oct 2023) Q13.**

**Q13.** Answer the question with a cross in the box you think is correct . If you change your mind about an answer, put a line through the box  and then mark your new answer with a cross .

What is 1400 millimetres in metres?

0.14

1.4

14

140

**(Total for question = 1 mark)**

**(QU04 LMA11/01, June 2019)**

**Q14.**

**Answer the question with a cross in the box you think is correct . If you change your mind about an answer, put a line through the box  and then mark your new answer with a cross .**

The radius of a circle is 8 cm.

What is the circumference of the circle to the nearest centimetre?

25 cm

50 cm

201 cm

804 cm

**(Total for question = 1 mark)**

**(QU08 LMA11/01, Oct 2020)**

**Q15.**

**Answer the question with a cross in the box you think is correct . If you change your mind about an answer, put a line through the box  and then mark your new answer with a cross .**

The radius of a circle is 4 cm.

What is the circumference of the circle, to 1 decimal place?

12.6 cm

25.1 cm

50.3 cm

201.1 cm

**(Total for question = 1 mark)**

**(QU12 LMA11/01, June 2023)**

**Q16.**

A wheel has diameter 50 cm.

What is the least number of times that the wheel needs to turn to travel 100 m?

**(Total for question = 2 marks)**  
**(QU29 LMA11/01, June 2019)**

**Q17.**

A metal cuboid has length 8 cm, width 6 cm and height 10 cm.

(a) What is the surface area of the metal cuboid?

..... cm<sup>2</sup>  
(2)

(QU27 LMA11/01, June 2019)

**Q18.**

The volume of a cube is 614.125 cm<sup>3</sup>

What is the surface area of this cube?

..... cm<sup>2</sup>

(Total for question = 3 marks)  
(QU32 LMA11/01, Oct 2023)

**Q19.**

**Answer the question with a cross in the box you think is correct  If you change your mind about an answer, put a line through the box  and then mark your new answer with a cross .**

What is the volume of a cube with edge 5 cm?

15 cm<sup>3</sup>

25 cm<sup>3</sup>

125 cm<sup>3</sup>

150 cm<sup>3</sup>

(Total for question = 1 mark)  
(QU08 LMA11/01, June 2023)

Q20.

Answer the question with a cross in the box you think is correct . If you change your mind about an answer, put a line through the box  and then mark your new answer with a cross .

What is the volume of this cuboid?

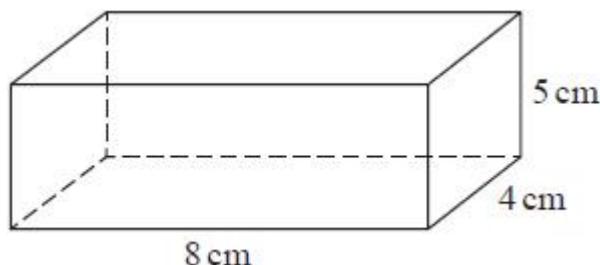


Diagram NOT  
accurately drawn

$17 \text{ cm}^3$

$92 \text{ cm}^3$

$160 \text{ cm}^3$

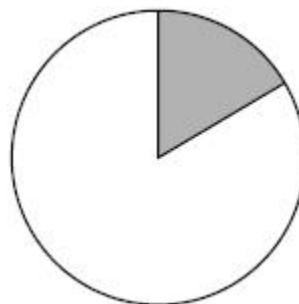
$184 \text{ cm}^3$

(Total for question = 1 mark)  
(QU12 LMA11/01, Oct 2020)

Q21.

Answer the question with a cross in the box you think is correct . If you change your mind about an answer, put a line through the box  and then mark your new answer with a cross .

What word describes the shaded part of this circle?



Circumference

A

Radius

B

Sector

C

Segment

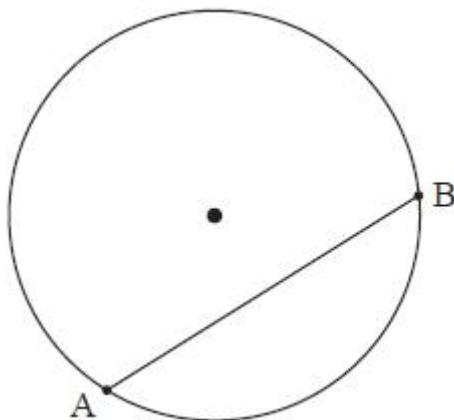
D

(Total for question = 1 mark)  
(QU05 LMA11/01, SAM 0)

**Q22.**

**Answer the question with a cross in the box you think is correct . If you change your mind about an answer, put a line through the box  and then mark your new answer with a cross .**

Which word describes the line AB on the diagram?



Chord

Diameter

Radius

Tangent

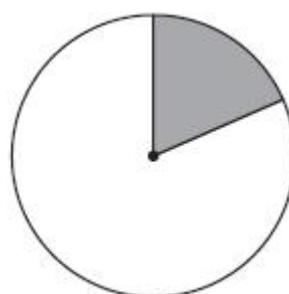
**(Total for question = 1 mark)**

**(QU02 LMA11/01, June 2019)**

**Q23.**

**Answer the question with a cross in the box you think is correct . If you change your mind about an answer, put a line through the box  and then mark your new answer with a cross .**

Which word describes the shaded part of the circle below?



Arc

Radius

Sector

Segment

**(Total for question = 1 mark)**  
**(QU04 LMA11/01, Oct 2022)**

**Q24.**

A solid, wooden cube has volume  $2197 \text{ cm}^3$

A student wants to cover all the faces of the cube with paint.

One tin contains enough paint to cover  $1000 \text{ cm}^2$

Does the tin have enough paint to cover all the faces of the cube?

You must show your working.

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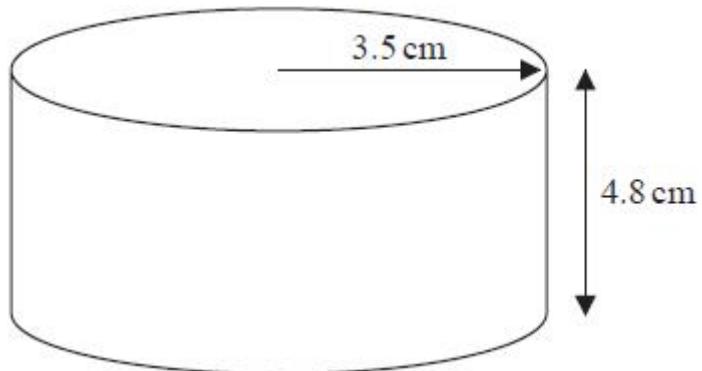
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**(Total for question = 4 marks)**

**(QU33 LMA11/01, SAM 0)**

**Q25.**

A solid cylinder has a radius of  $3.5 \text{ cm}$  and a height of  $4.8 \text{ cm}$ .



Work out the total surface area of the cylinder.

Give your answer correct to 1 decimal place.

.....  $\text{cm}^2$

**(Total for question = 3 marks)**  
**(QU21 LMA11/01, June 2023)**