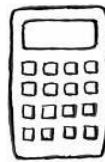


Name:

Teacher
Assessment

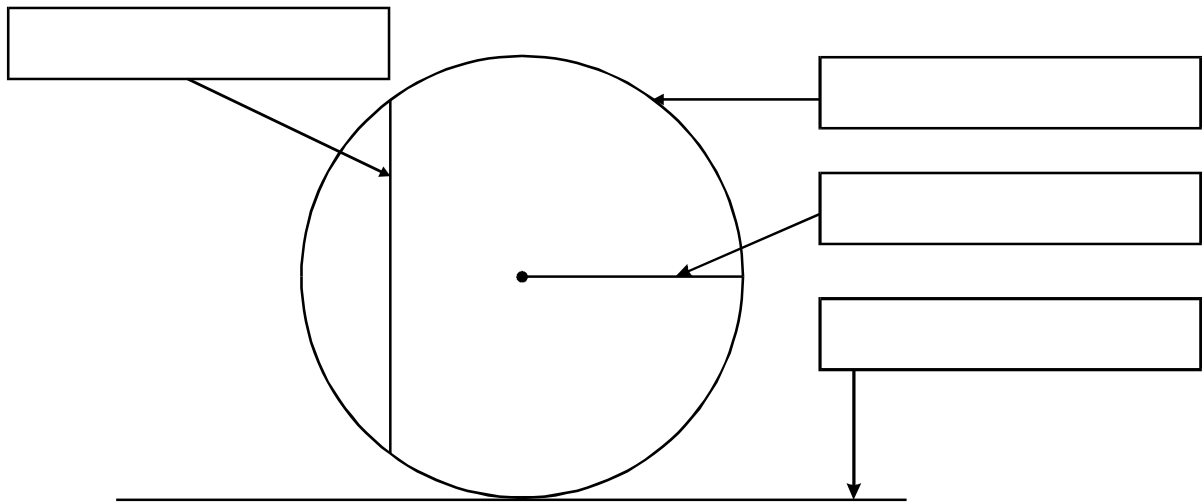


Section A **Labelling Parts of Circles** **Grade G**

1. Here is a list of words that are connected with circles.

centre radius chord diameter circumference tangent

Label the four boxes on this diagram, by choosing the correct word from the list.



(Total 4 marks)

2. (a) A circle has a radius of 4 cm.

Write down the length of the diameter.

Answer cm

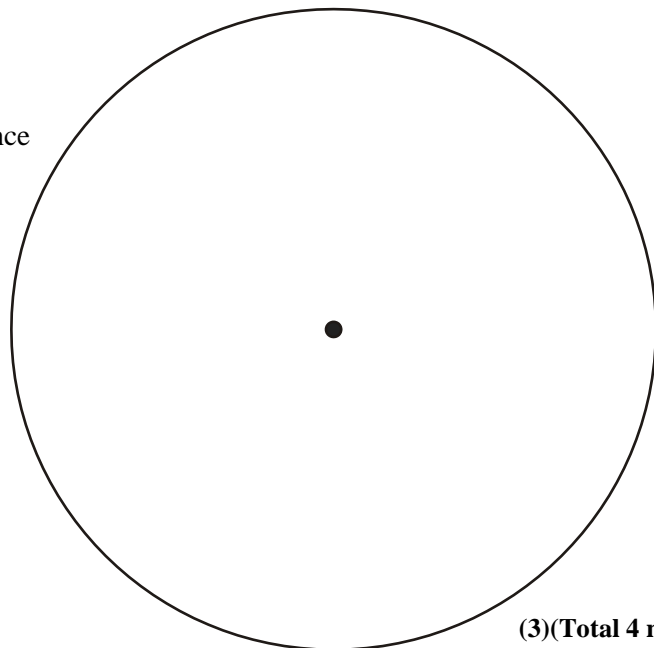
(1)

(b) On the circle below

(i) draw a diameter

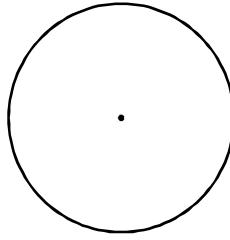
(ii) mark with a cross a point on the circumference

(iii) draw a tangent



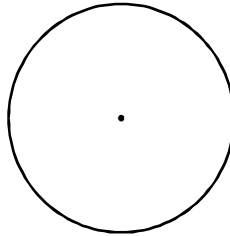
(3)(Total 4 marks)

3. (a) Draw a diameter on the circle.



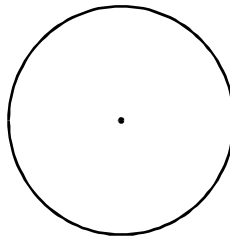
(1)

- (b) Draw a chord on the circle.



(1)

- (c) Draw a tangent to the circle.

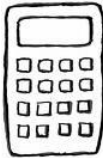


(1)

(Total 3 marks)

Success:

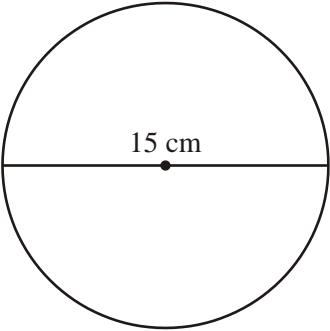
Target:



Section B **Circumference of Circles** **Grade D**

1. The diameter of a circle is 15 cm.

Calculate the circumference of the circle.

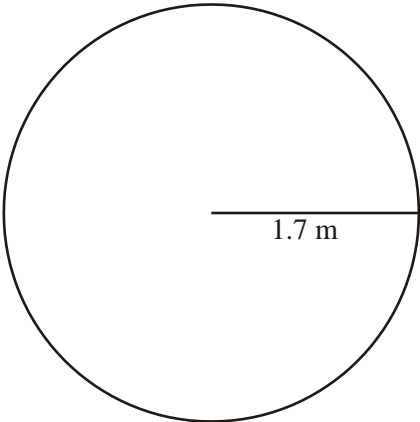


Not drawn accurately

.....
.....

Answer cm
(Total 2 marks)

2. A circular flowerbed has a radius of 1.7 m.



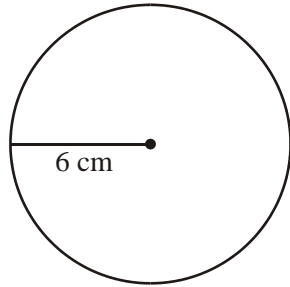
Not drawn accurately

Calculate the circumference of the flowerbed.
State the units of your answer.

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

Answer
(Total 3 marks)

3. The diagram shows a circle of radius 6 cm.



Not drawn accurately

Work out the circumference of the circle.
Give your answer in terms of π and state the units of your answer.

.....
.....

Answer

(Total 3 marks)

4. A circular dish has a diameter of 9 cm. Calculate the circumference of the dish.

.....
.....

Answer cm

(Total 2 marks)

5. A circular pond has a diameter of 6 m.
Calculate its circumference.

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

Answer m

(Total 2 marks)

6. A circular pond has a radius of 2.2 m.
Calculate the circumference of the pond.

.....
.....

Answer m

(Total 2 marks)

7. (a) A circular dinner plate has a radius of 13 cm.

Calculate the circumference of the plate.

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

Answer cm

(3)

- (b) A smaller circular plate has a diameter of 14 cm.

Calculate the circumference of the plate.

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

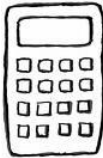
Answer cm

(2)

(Total 5 marks)

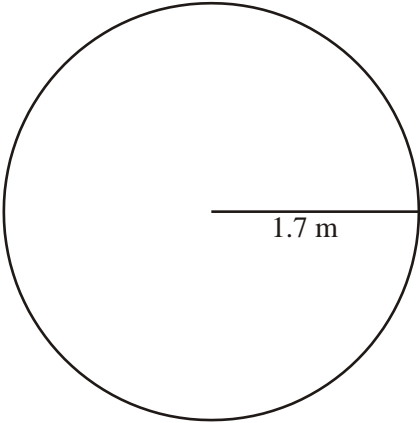
Success:

Target:



Section C **Area of Circles** **Grade D**

1. A circular flowerbed has a radius of 1.7 m.



Not drawn accurately

Calculate the area of the flowerbed.
State the units of your answer.

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

Answer

(Total 3 marks)

2. Calculate the area of a circle of radius 8 cm.

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

Answer

(Total 3 marks)

3. A circular pond has a radius of 2.2 m.

Calculate the area of the pond.

.....
.....

Answer m²

(Total 2 marks)

4. A circular pond has a diameter of 2.8 m.

Calculate the area of the pond.

.....
.....

Answer

(Total 3 marks)

5. (a) A circular dinner plate has a radius of 13 cm.

Calculate the area of the plate.

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

Answer cm²

(3)

- (b) A smaller circular plate has a diameter of 14 cm.

Calculate the area of the plate.

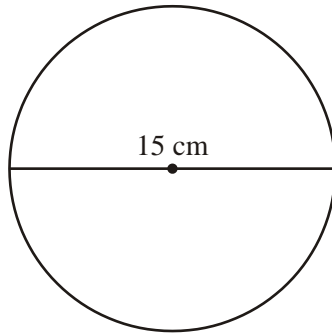
.....
.....
.....
.....

Answer cm²

(3)

(Total 6 marks)

6. The diameter of a circle is 15 cm.
Calculate the area of the circle.

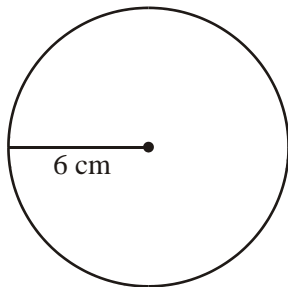


Not drawn accurately

.....
.....

Answer cm^2
(Total 3 marks)

7. The diagram shows a circle of radius 6 cm.



Not drawn accurately

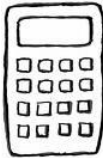
Work out the area of the circle.
Give your answer in terms of π .

.....
.....

Answer
(Total 3 marks)

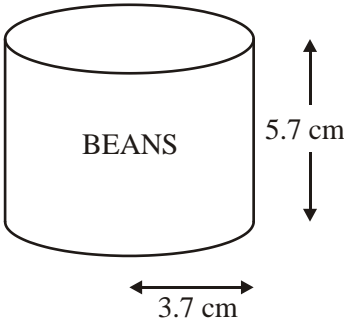
Success:

Target:



Section D **Volume of Cylinders** **Grade C**

- 1. The diagram shows a cylindrical can of beans.
The height is 5.7 cm.
The radius of the base is 3.7 cm.



Not to scale

Calculate the volume of the can.

.....

.....

.....

.....

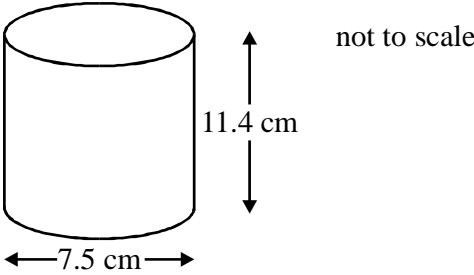
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Answer cm³
(Total 5 marks)

- 2. A cylindrical can of soup has a diameter of 7.5 cm.
It is 11.4 cm high.



Calculate the volume of the can.

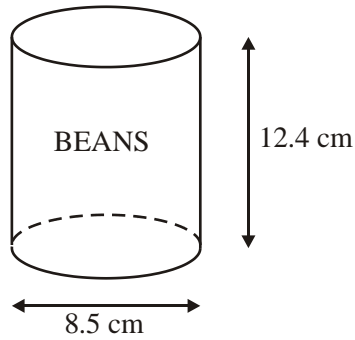
.....

.....

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Answer.....
(Total 4 marks)

3. The diagram shows a cylindrical tin of beans of diameter 8.5 cm and height 12.4 cm.



Not drawn accurately

Calculate the volume of the cylinder.
State the units of your answer.

.....

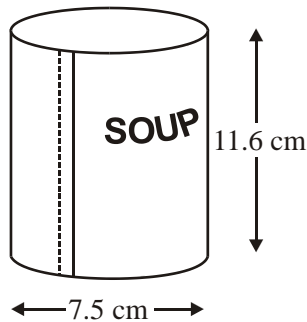
.....

.....

Answer

(Total 4 marks)

4. The diagram shows a cylindrical tin of soup of diameter 7.5 cm and height 11.6 cm.



Not to scale

Calculate the volume of the cylinder.

.....

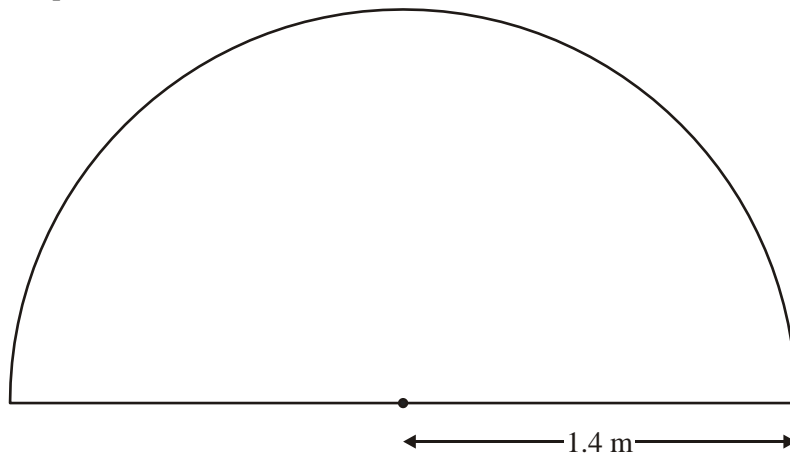
.....

.....

Answer cm^3

(Total 3 marks)

5. Jasmin has a pond in her garden.
The surface of the pond is a semicircle of radius 1.4 m.



- (a) Calculate the area of a semicircle of radius 1.4 m.
You **must** show your working.
State the units of your answer.

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

Answer

(3)

- (b) The pond is 50 cm deep.
The sides of the pond are vertical.

Calculate the volume of the pond.
Give your answer in cubic metres.

.....
.....
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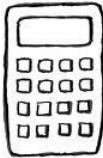
Answer m³

(2)

(Total 5 marks)

Success:

Target:



Section E **Problem Solving** **Grade C**

1. The radius of the wheel of Ellie’s bicycle is 0.3 m.

(a) Calculate the circumference of the wheel.

.....
.....

Answer m

(2)

(b) Ellie cycles 100 m.

How many revolutions does the wheel make?

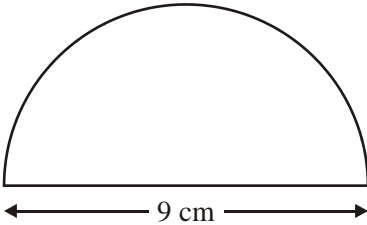
.....
.....

Answer

(2)

(Total 4 marks)

2. A semi-circular protractor has a diameter of 9 cm.



Not drawn accurately

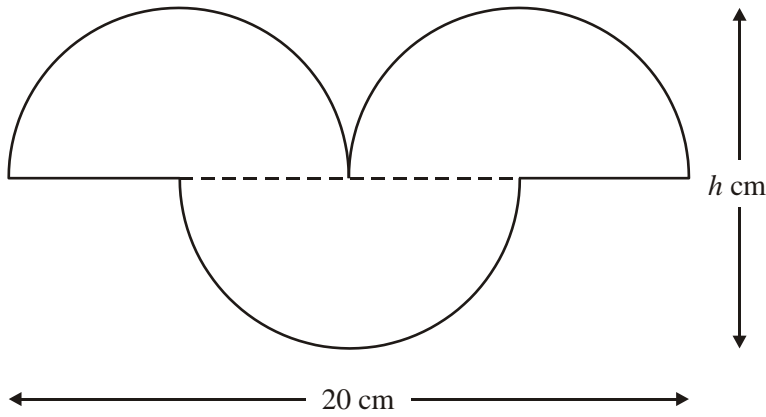
Calculate the perimeter.

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

Answer cm

(Total 3 marks)

3. The diagram shows a shape made from three identical semicircles. The width of the shape is 20 cm.



Not drawn accurately

- (a) Work out the radius of one of the semicircles.

.....

Answer cm

(1)

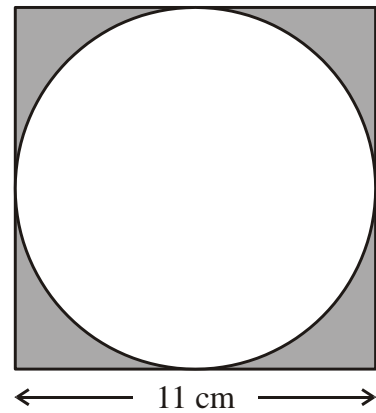
- (b) Work out the height of the shape, marked h on the diagram.

.....

Answer cm

(1)(Total 2 marks)

4. The diagram shows a circle which touches all four sides of a square. The diameter of the circle is 11 cm.



Calculate the total area of the shaded parts of the square. Give your Answer to a suitable degree of accuracy.

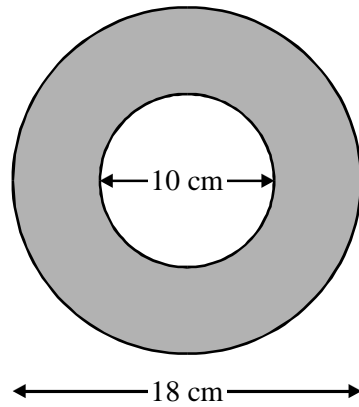
.....

Answer cm²

(Total 4 marks)

5. A circular photo frame is shown below.

The diameter of the photo is 10 cm and the outer diameter of the frame is 18 cm.



Not to scale

Calculate the area of the frame.

.....

.....

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.....

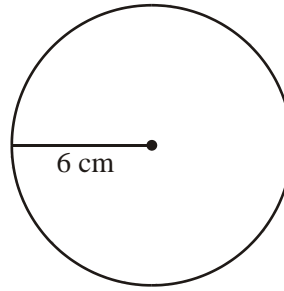
.....

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Answer

(Total 5 marks)

6. The diagram shows a circle of radius 6 cm.



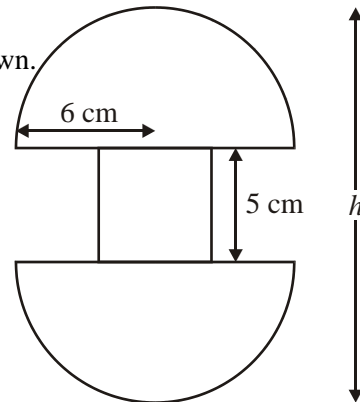
- (a) Work out the area of the circle.
Give your answer in terms of π

.....
.....

Answer

- (b) A badge is made out of 2 semicircles and a square, as shown.
The radius of the semicircle is 6 cm.
The square has side 5 cm.

Not to scale



(3)

- (i) Write down the area of the badge.
Give your answer in terms of π .

.....
.....

Answer

(1)

- (ii) Write down the height of the badge, marked h on the diagram.

.....

Answer cm

(1)

- (iii) The badges are made from a strip of metal 2 metres long and 12 cm wide as shown.



2 metres

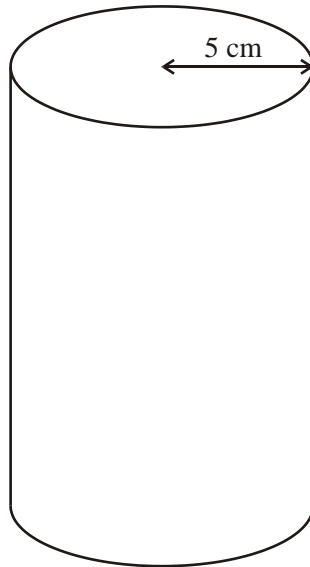
How many badges can be made from the strip of metal? Show your working.

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

Answer

(3)(Total 8 marks)

7. A cylinder has a radius of 5 cm.



Not to scale

- (a) Calculate the circumference of a circular end of the cylinder.

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

Answercm

(2)

- (b) The cylinder has a volume of 250 cm^3 .
Calculate the height of the cylinder.

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

Answercm

(3)

(Total 5 marks)

8. A cylinder has a radius of 6.5 cm and a volume of 375 cm^3 . Calculate the height of the cylinder.

.....

Answercm

(Total 3 marks)

9. A cylinder contains 17 litres of water. The radius of the cylinder is 15 cm.

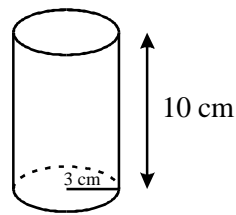
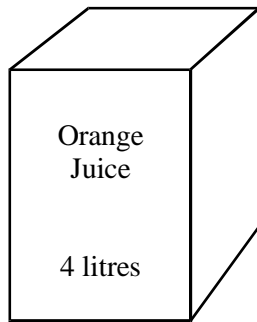
Calculate the height of the water in the cylinder.

.....

Answer cm

(Total 4 marks)

10. A large carton contains 4 litres of orange juice.
Cylindrical glasses of height 10 cm and radius 3 cm are to be filled from the carton.



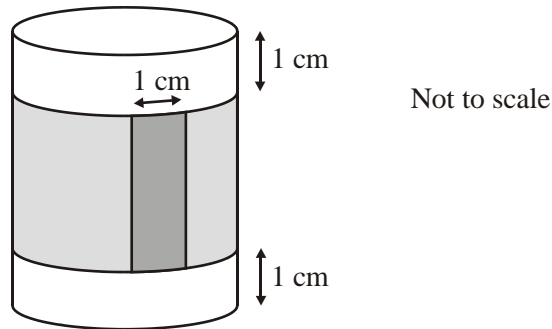
How many glasses can be filled? You **must** show all your working.

.....

Answer glasses

(Total 5 marks)

11. A tin of diameter 7 cm and height 12 cm has a label around it.
The label is glued together using a 1 cm overlap.
There is a 1 cm gap between the label and the top and the bottom of the tin.



Find the length and the height of the label.

.....

.....

.....

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.....

Answer Length = cm

Height = cm

(Total 4 marks)

Success:

Target: