

Circles - Circumference and Area

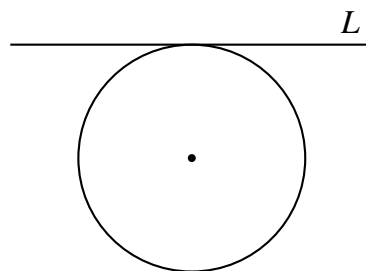
For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **27**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method. You may use a calculator.

1 Here is a circle.



Not drawn accurately

The line L touches the circle at one point.
Circle the word that describes line L .

[1 mark]

radius

diameter

chord

tangent

2 Which of these is **always** a chord of the circle?
Tick one box.

[1 mark]

☐ a radius

☐ a diameter

☐ a tangent

☐ an arc

- 3 A circle has radius r .
Circle the expression for the circumference of the circle.

[1 mark]

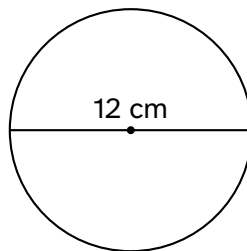
$$\pi r$$

$$2\pi r$$

$$\pi r^2$$

$$2\pi r^2$$

- 4 A circle has diameter 12 cm.



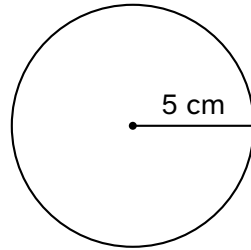
Not drawn accurately

Work out the circumference of the circle.
Give your answer to 1 decimal place.

[2 marks]

Answer _____ cm

- 5 A circle has radius 5 cm.



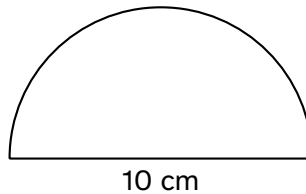
Not drawn accurately

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

[2 marks]

Answer _____ cm^2

- 6 Here is a semicircle.



Not drawn accurately

Work out the perimeter of the semicircle.
Give your answer to 1 decimal place.

[3 marks]

Answer _____ cm

- 7** A circle has an area of 50 cm^2
Work out the radius of the circle.
Give your answer to 3 significant figures.

[2 marks]

Answer _____ cm

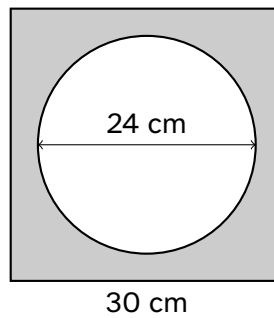
- 8** Zara is decorating 5 round cakes. Each cake has diameter 20 cm.
She puts one strip of ribbon all the way round the side of each cake.
She also uses an extra 12 cm of ribbon on each cake for a bow.

Ribbon is sold in whole metres.
How many metres of ribbon must Zara buy?
You must show your working.

[4 marks]

Answer _____ m

- 9 A circular clock face of diameter 24 cm is fixed to a square wooden board of side 30 cm.
The shaded part of the board is not covered.



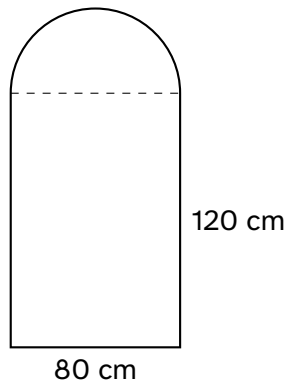
Not drawn accurately

Work out the area of the board that is **not** covered by the clock face.
Give your answer to 1 decimal place.

[3 marks]

Answer _____ cm^2

- 10** A window is made from a rectangle and a semicircle.



Not drawn accurately

Work out the area of the window.
Give your answer in m^2 to 2 decimal places.

[4 marks]

Answer _____ m^2

- 11** A café sells round pizzas in two sizes.

Small: diameter 20 cm, cost £5.50

Large: diameter 30 cm, cost £11.00

Which size of pizza gives more pizza for each £1?
You must show your working.

[4 marks]
