1 A circle has radius 18 cm.

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

..... cm

(Total for Question 1 is 2 marks)

2 The diagram shows a shaded shape *ABCD* made from a semicircle *ABC* and a right-angled triangle *ACD*.

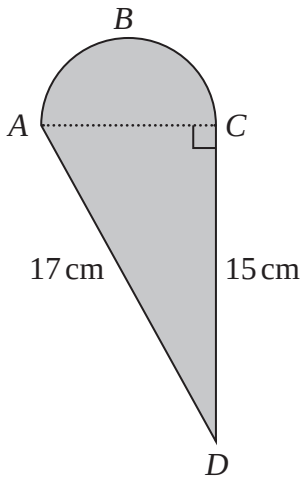


Diagram **NOT** accurately drawn

AC is the diameter of the semicircle *ABC*.

Work out the perimeter of the shaded shape.
Give your answer correct to 3 significant figures.

..... cm

(Total for Question 2 is 5 marks)

3 A circle has diameter 18 cm.

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

..... cm^2

(Total for Question 3 is 2 marks)

4 The region, shown shaded in the diagram, is a path.

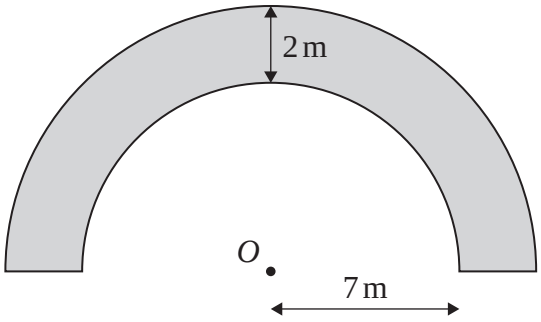


Diagram **NOT** accurately drawn

The boundary of the path is formed by two semicircles, with the same centre O, and two straight lines.

The inner semicircle has a radius of 7 metres.
The path has a width of 2 metres.

Work out the perimeter of the path.
Give your answer correct to one decimal place.

..... m

(Total for Question 4 is 3 marks)

5 *A*, *B* and *C* are points on a circle with centre *O*.

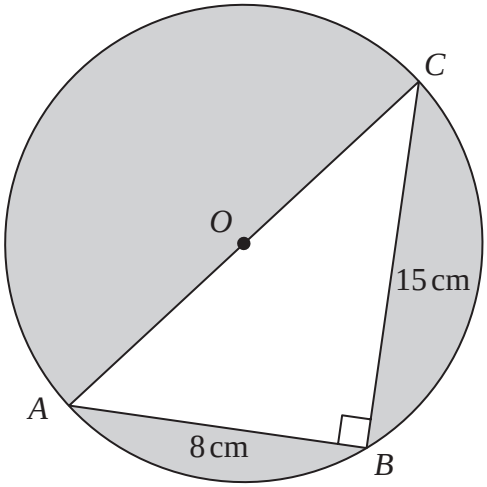


Diagram **NOT** accurately drawn

AOC is a diameter of the circle.

AB = 8 cm *BC* = 15 cm

Angle *ABC* = 90°

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

..... cm^2

(Total for Question 5 is 5 marks)

6 The diagram shows a shape made from a square *ABCD* and 4 identical semicircles.

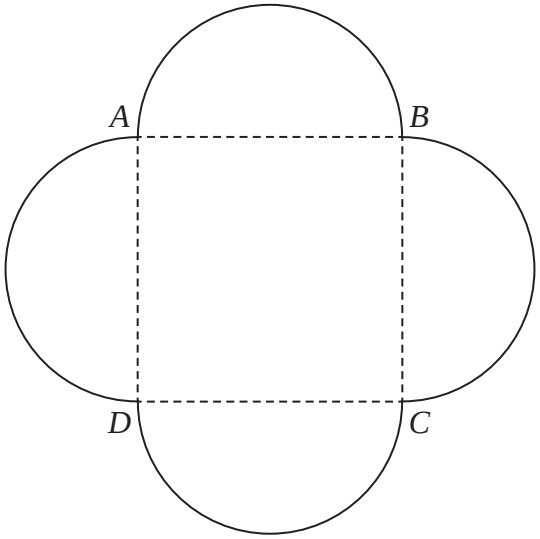


Diagram **NOT** accurately drawn

As shown in the diagram, the semicircles have *AB*, *BC*, *CD* and *DA* as diameters.

The area of the square is $36\,\text{cm}^2$

Calculate the total area of the shape.
Give your answer correct to one decimal place.

..... cm^2

(Total for Question 6 is 4 marks)

7 A circle has radius 6.5 cm.

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

..... cm

(Total for Question 7 is 2 marks)

8 In the diagram, *ABC* is a right-angled triangle and *DEF* is a semicircular arc.

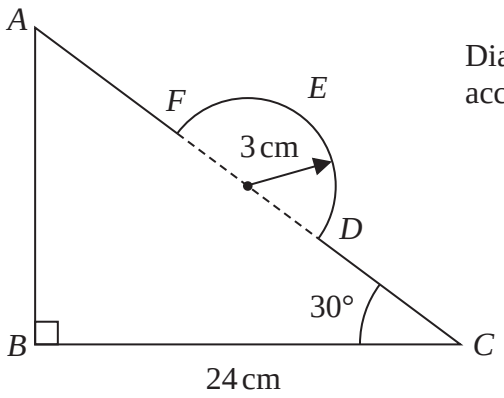


Diagram **NOT** accurately drawn

In triangle *ABC*

BC = 24 cm angle *ABC* = 90° angle *BCA* = 30°

The points *D* and *F* lie on *AC* so that *DF* is the diameter of the semicircular arc *DEF*
The radius of the semicircular arc is 3 cm.

Work out the length of *AFEDC*
Give your answer correct to 2 significant figures.

..... cm

(Total for Question 8 is 5 marks)

9 *R* and *T* are points on a circle, centre *O*

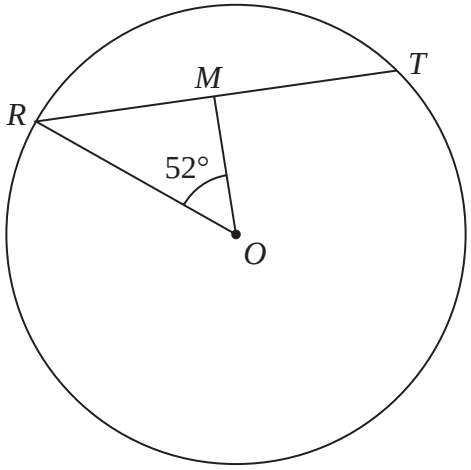


Diagram **NOT** accurately drawn

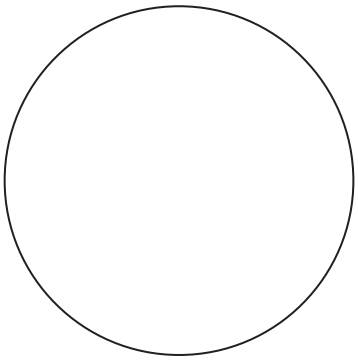
RT = 12 cm
M is the midpoint of *RT*
Angle *ROM* = 52°

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

..... cm^2

(Total for Question 9 is 4 marks)

10



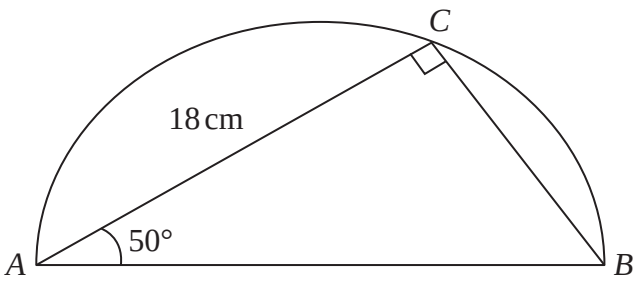
(c) On the diagram above, draw a chord of the circle.

(1)

(Total for Question 10 is 1 marks)

11 The diagram shows a triangle *ABC* inside a semicircle.

Diagram **NOT** accurately drawn



A, *B* and *C* are points on the semicircle.

AB is the diameter of the semicircle.

Angle *ACB* = 90°
Angle *BAC* = 50°
AC = 18 cm

Work out the perimeter of the semicircle.
Give your answer correct to 2 significant figures.

..... cm

(Total for Question 11 is 5 marks)

12 A circle has radius 8.5 cm

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

..... cm

(Total for Question 12 is 2 marks)