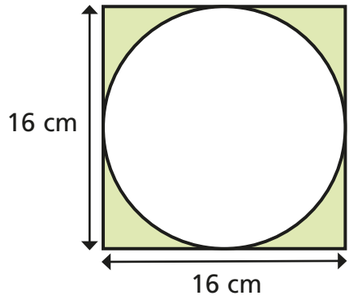
Calculate the perimeter and area of compound shapes (2)

1 A circle is drawn inside a square.

Each side of the square is 16 cm.



a) What is the diameter of the circle?

Explain your reasoning.

16 cm

The diameter of the circle is equal to the length of the square.

b) What is the radius of the circle?

8 cm

c) Work out the area of the circle.

Give your answer to 2 decimal places.

area = 201.06 cm²

d) Work out the area of the shaded region.

Show all the steps in your working.

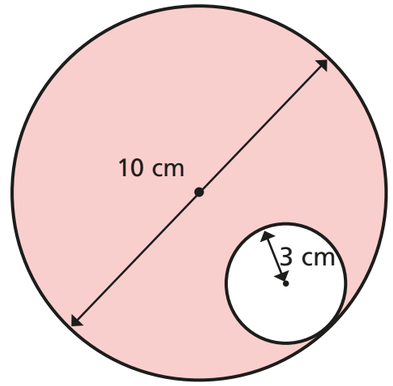
area = 54.9 cm²

2 Work out the area of the shaded region in each shape.

Give your answers in terms of π.

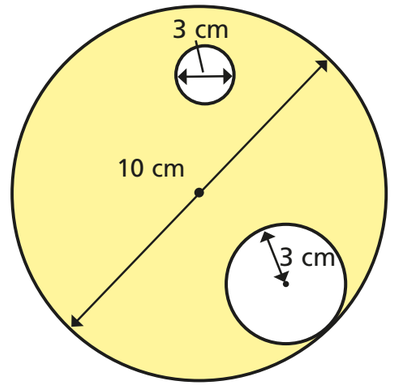
Show all the steps in your working.

a)



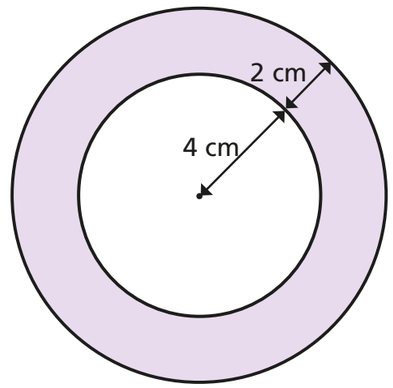
area = 16π cm²

b)



area = 13.75π cm²

c)



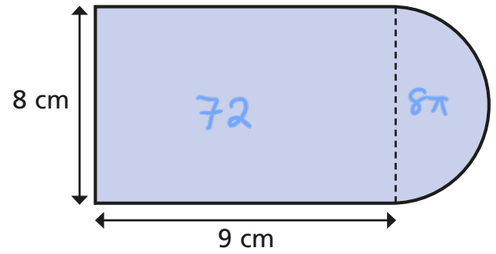
area = 20π cm²

Discuss your method with a partner.

Did you use the same method?

3 **a)** Divide this shape into two shapes to find its area.

Show all your workings.

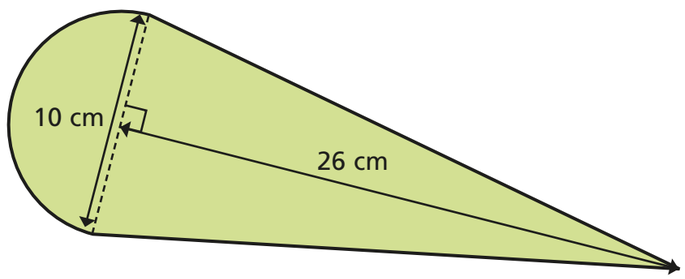


97·1 cm²

b) Find the perimeter of the shape.

38·6 cm

4 The diagram shows the layout of a field of play for a sporting event.

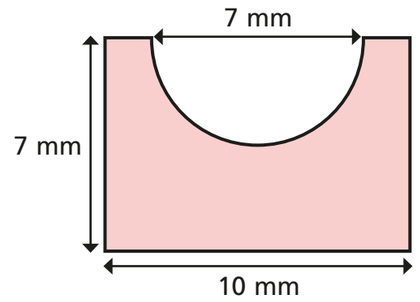


Find the area of the field of play.

area = 169·3 cm²

5 Work out the perimeter of the shape.

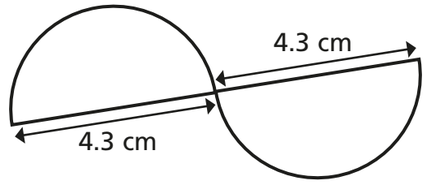
Give your answer in terms of π.



27+3·5π mm

6 The diagram shows part of a children's toy.

It has been made from a single piece of wire.



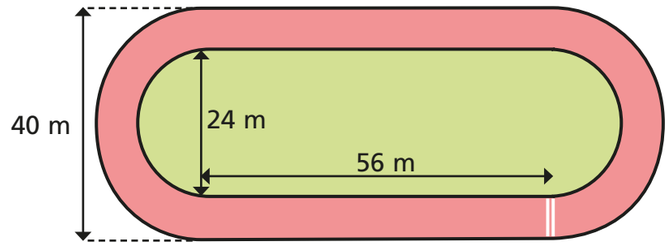
Find the total length of wire needed to make the shape.

22·1 cm

7 The diagram shows the layout of a small running track.

- Runner A runs around the inside of the track.
- Runner B runs around the outside of the track.

How much further does Runner B travel?



50·3m