Calculate the perimeter and area of compound shapes (2)
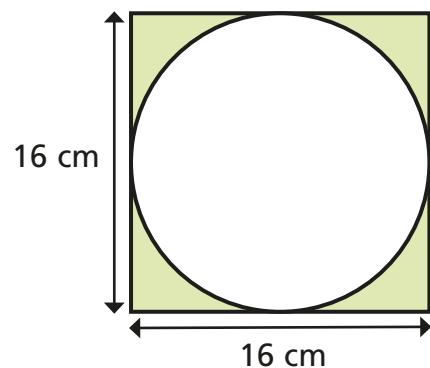
1 A circle is drawn inside a square.

Each side of the square is 16 cm.

16 cm

16 cm

a) What is the diameter of the circle? ☐ cm

Explain your reasoning.

_____

_____

b) What is the radius of the circle? ☐ cm

c) Work out the area of the circle.

Give your answer to 2 decimal places.

area = ☐ cm²

d) Work out the area of the shaded region.

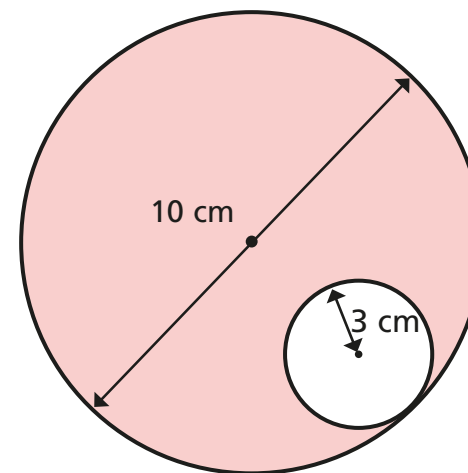Show all the steps in your working.

area = ☐ cm²

2 Work out the area of the shaded region in each shape.
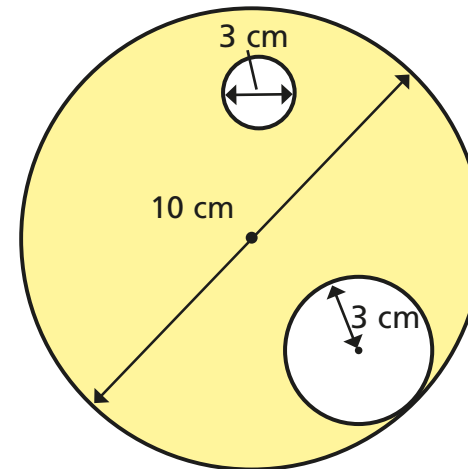
Give your answers in terms of π.
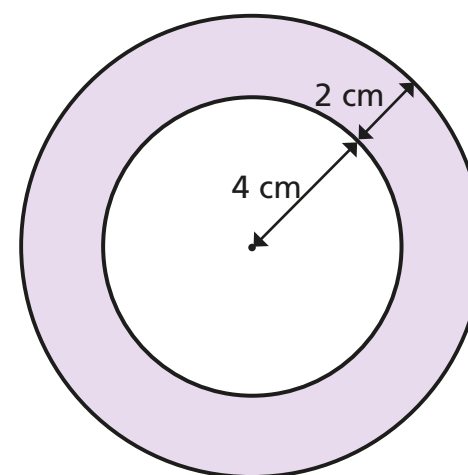
Show all the steps in your working.

a)

10 cm

3 cm

area = _____ cm²

b)

3 cm

10 cm

3 cm

area = _____ cm²
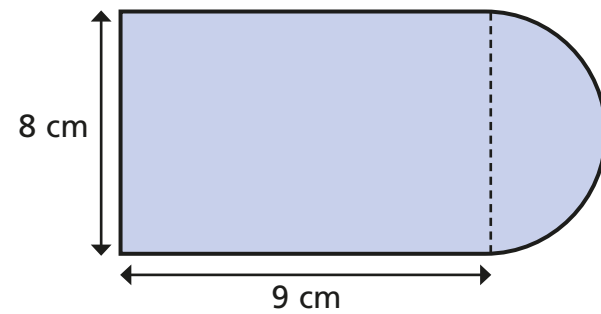
c)

2 cm

4 cm

area = _____ cm²

Discuss your method with a partner.
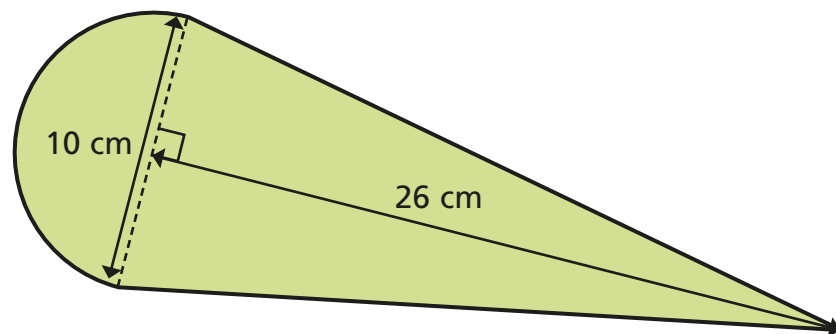
Did you use the same method?

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

Show all your workings.

8 cm

9 cm

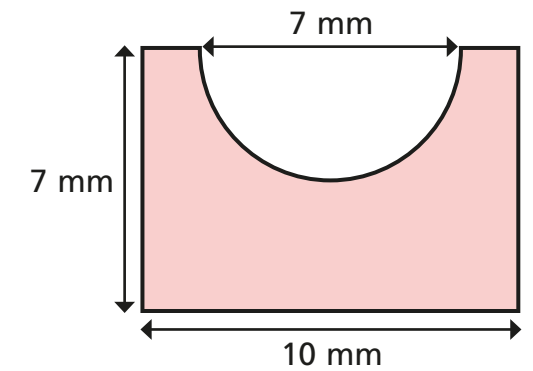**b)** Find the perimeter of the shape.

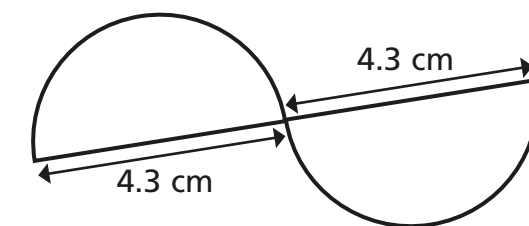**4** The diagram shows the layout of a field of play for a sporting event.

10 cm

26 cm

Find the area of the field of play.

area =

5 Work out the perimeter of the shape.

Give your answer in terms of π.

7 mm

7 mm

10 mm

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

It has been made from a single piece of wire.

4.3 cm

4.3 cm

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

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?

40 m

24 m

56 m