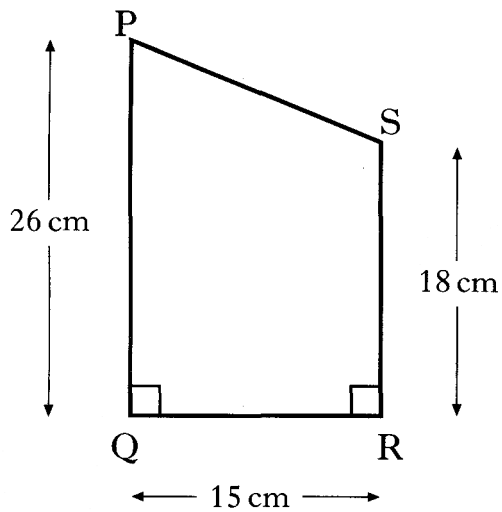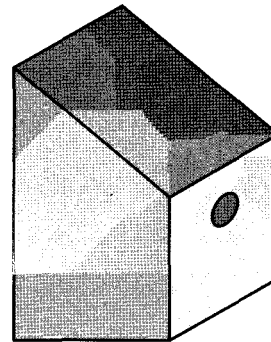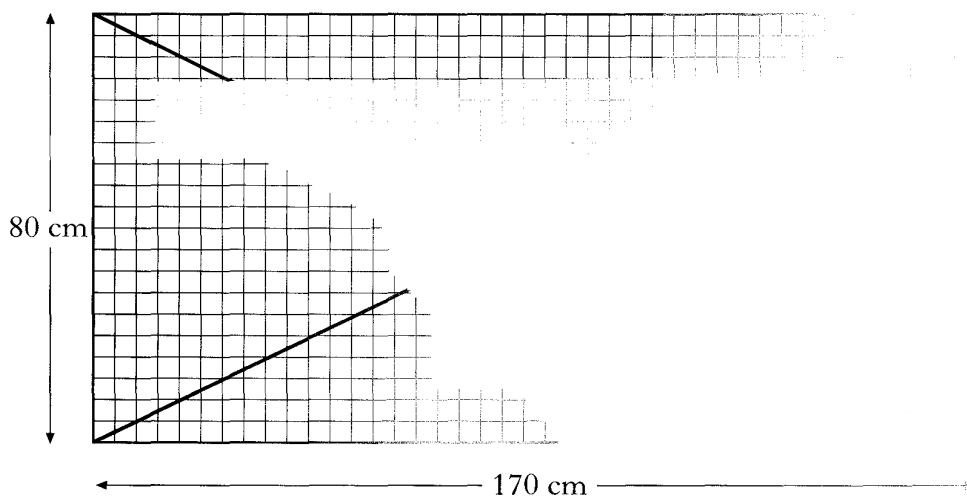Lewis is designing a bird box for his garden.

The dimensions for the side of the box are shown in the diagram below.

P

S

26 cm

18 cm

Q

R

← 15 cm →

Calculate the length of side PS.

Do not use a scale drawing.

4

Ans | 17cm

A rectangular metal grill for a window is shown below.

Two diagonal metal bars strengthen the grill.
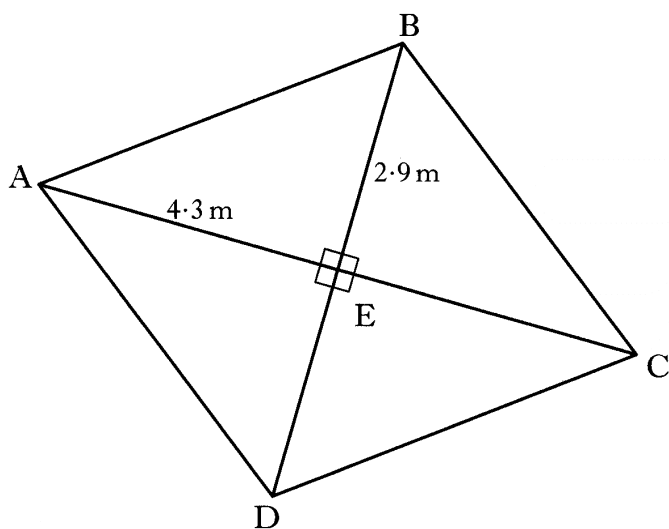

80 cm

170 cm

Find the length of one of the metal bars.

Round your answer to the nearest centimetre.

Do not use a scale drawing.

4

Ans | 188cm

ABCD is a rhombus.

AE = 4·3 metres and BE = 2·9 metres.
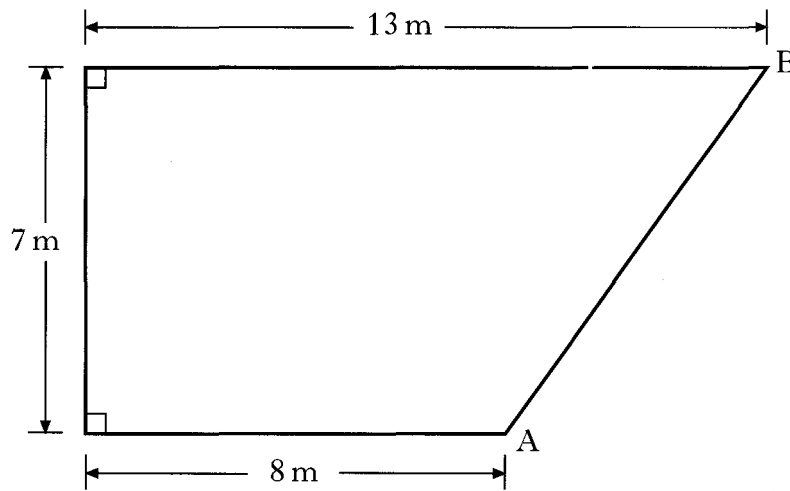
Calculate the perimeter of the rhombus.

B

A

2·9 m

4·3 m

E

C

D

4

Do not use a scale drawing.

Ans | 20.7cm

The diagram below shows the shape of Sangita's garden.

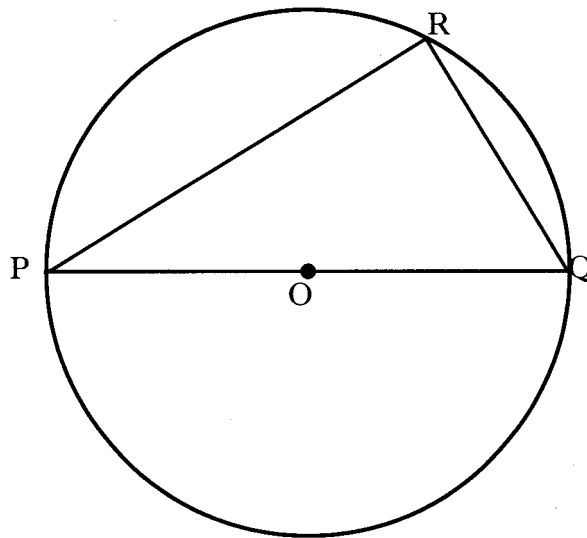Sangita plants a hedge along side AB.

13 m

B

7 m

8 m

A

Calculate the length of the hedge.

4

Ans 8.6m

R

P

O

Q

PQ is a diameter of the circle with centre O.

R is a point on the circumference of the circle.

PR is 12 centimetres.

RQ is 5·5 centimetres.
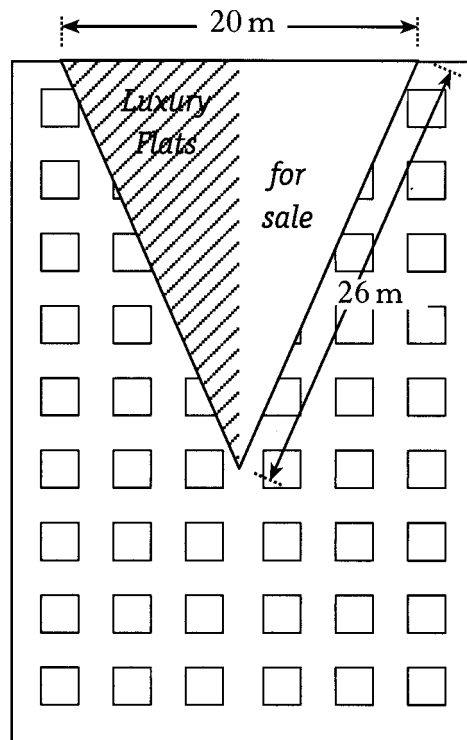
Calculate the length of the radius of the circle.

4

Ans 6.6cm

A large advertising banner is hanging from a building.

The banner is an isosceles triangle.

The top edge of the banner is 20 metres long and each of the other two sides is 26 metres long.

Find the area of the banner.
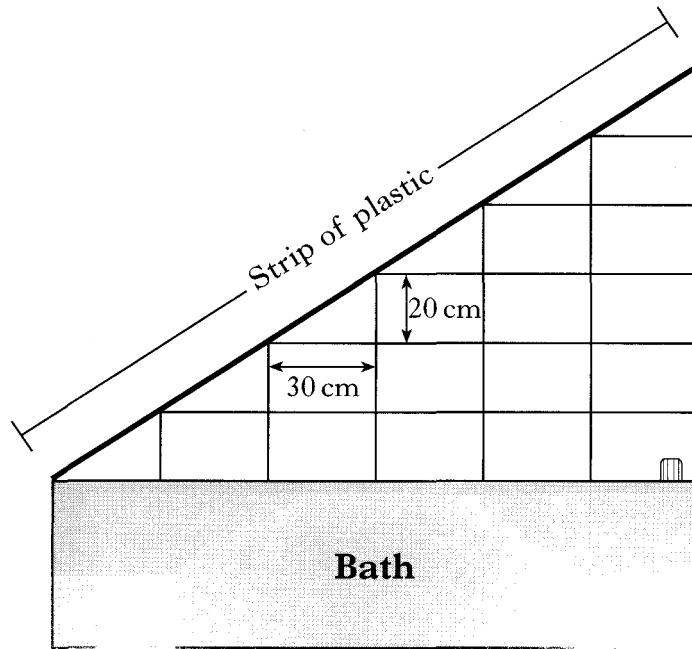

4

Ans | 240 m^2

The diagram below shows the wall Jamie has tiled above the bath in his house.

He used rectangular tiles, some of which he halved.

The length of each tile is 30 centimetres.
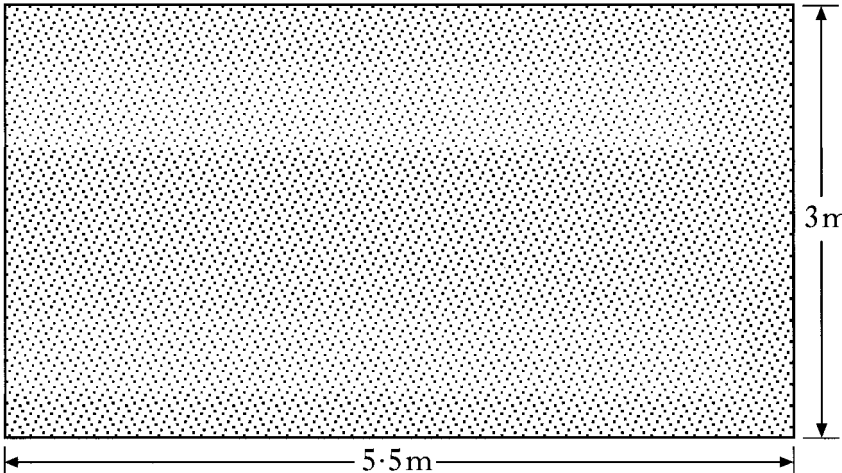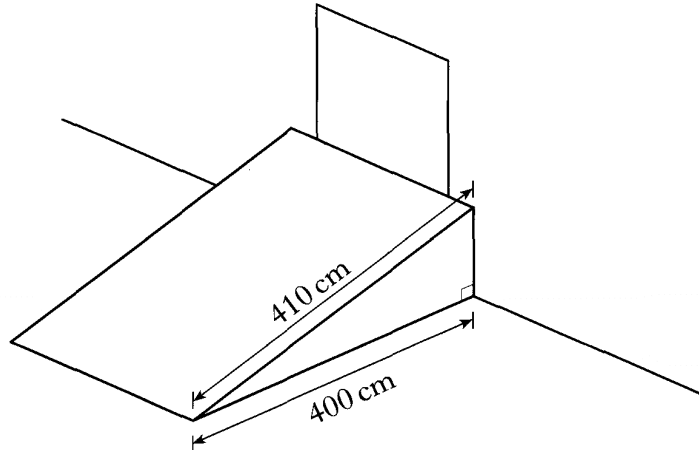
The breadth of each tile is 20 centimetres.

A strip of plastic is fitted along the top of the tiles.

Calculate the length of the strip of plastic.

4

Ans   216.3 cm

John is laying a concrete floor for his garage.

The floor is to be a rectangle 5·5 metres by 3 metres.

3m

5·5m

To check the floor is rectangular, John measures a diagonal.

What should this measurement be?

3

Ans | 6.3m

A new regulation states that the gradient of all ramps into a building must be less than 0·26.

An existing ramp is 410 cm long and has a horizontal distance of 400 cm.

410 cm

400 cm

Does this ramp satisfy the new regulation?

Show all your working and give a reason for your answer.

5

Ans | Yes. 0.225 is less than 0.26