3 The diagram shows a shape.
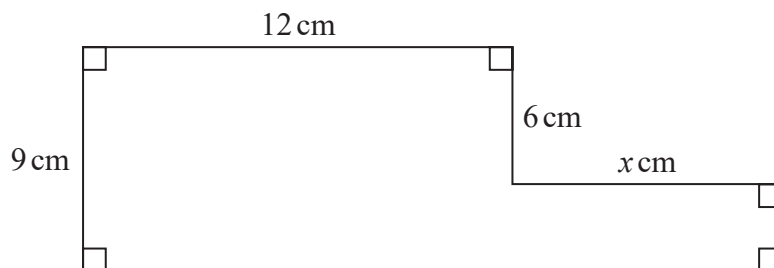
12 cm

Diagram **NOT**
accurately drawn

6 cm

9 cm

x cm

The shape has area 129 cm²

Work out the value of x.

$x =$ ....

(Total for Question 3 is 4 marks)

3

x cm

A ◻————◻ B

Diagram **NOT** accurately drawn

8 cm

14 cm

C

E ◻————————— D

13 cm
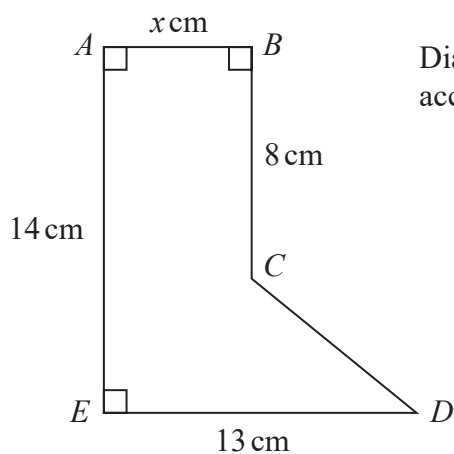
The diagram shows the shape *ABCDE*.

The area of the shape is 91.8 cm²

Work out the value of *x*.

$x =$ ....

(Total for Question 3 is 4 marks)

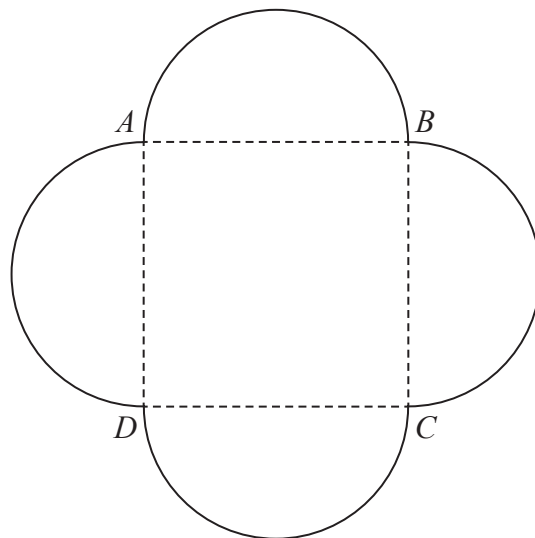**5** The diagram shows a shape made from a square *ABCD* and 4 identical semicircles.

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 5 is 4 marks)

Turn over ▶

5 The diagram shows an 8-sided shape *ABCDEFGH*.
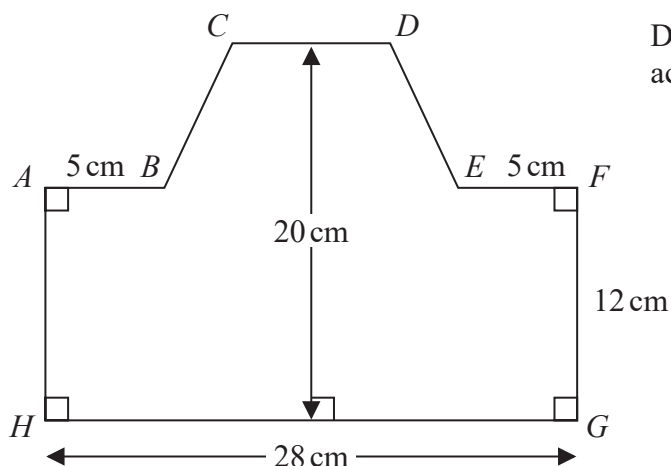
Diagram **NOT** accurately drawn

HG = 28 cm   *FG* = 12 cm   *AB* = *EF* = 5 cm
The height of the shape is 20 cm
CD is parallel to *HG*

The area of shape *ABCDEFGH* is 434 cm²

Find the length of *CD*.

.... cm

(Total for Question 5 is 4 marks)

5 The diagram shows the design for a badge, which will be made using wire.
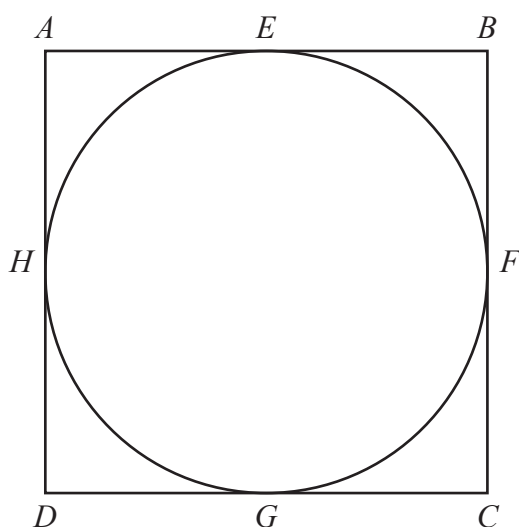The design is a circle inside a square *ABCD*

Diagram **NOT**
accurately drawn

The circle touches the square at the points *E*, *F*, *G* and *H*

The area of the square is $81\,cm^2$

Calculate the total length of wire that will be needed to make the square and the circle.
Give your answer correct to 3 significant figures.

.... cm

(Total for Question 5 is 4 marks)

P 7 3 4 7 0 A 0 7 3 2

7 The diagram shows a 6-sided shape *ABCDEF*

15 cm

C   *D*

B   *E*

h cm

13 cm

A   *F*
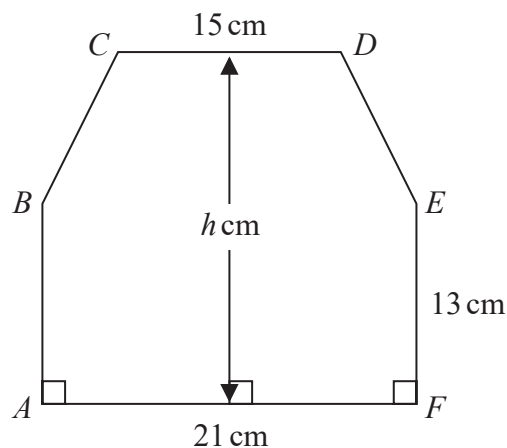
21 cm

Diagram **NOT**
accurately drawn

AF = 21 cm   *CD* = 15 cm   *AB* = *FE* = 13 cm

The perpendicular height of the shape is *h* cm
CD is parallel to *AF*

The area of the shape is 390 cm^2

Work out the value of *h*

h = ...

(Total for Question 7 is 4 marks)

8 The diagram shows a trapezium, *ABCD*

A ▢   *B*

Diagram **NOT** accurately drawn

15 cm

D   14 cm   *C*
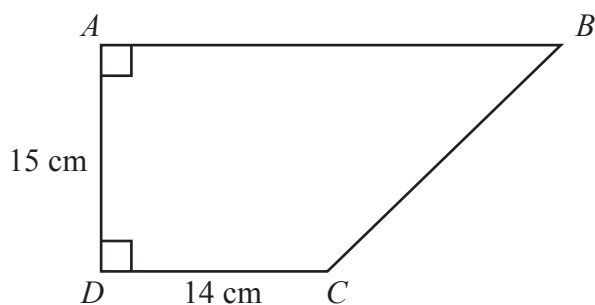
DAB and *ADC* are right angles.

    AD = 15 cm   *DC* = 14 cm

The area of the trapezium is 360 cm²

Work out the perimeter of the trapezium.

.... cm

(Total for Question 8 is 6 marks)

17 Here is a parallelogram *PQRS*, in which angle *SPQ* is acute.

S   R
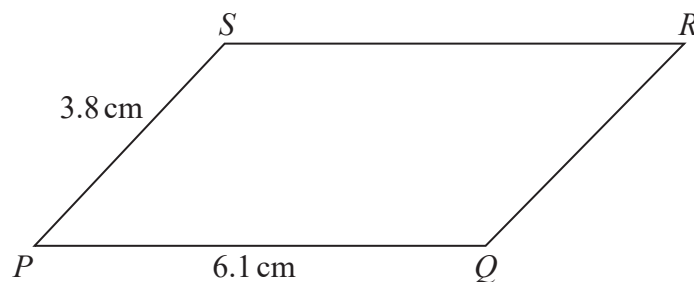
3.8 cm   Diagram **NOT** accurately drawn

P   6.1 cm   Q

PQ = 6.1 cm   *PS* = 3.8 cm

The area of the parallelogram is 18 cm^2

Work out the length of *QS*
Give your answer correct to 3 significant figures.

.... cm

(Total for Question 17 is 5 marks)