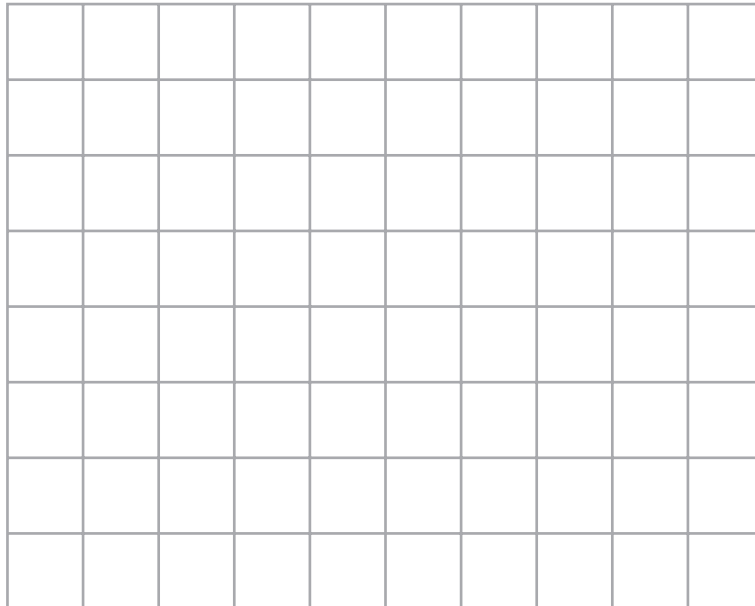


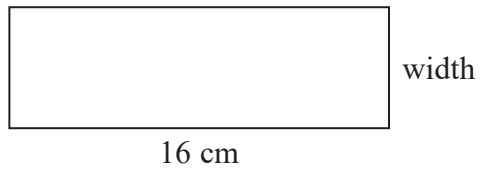
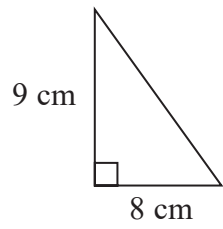
- 1 The length of a rectangle is twice as long as the width of the rectangle.
The area of the rectangle is 32 cm^2 .

Draw the rectangle on the centimetre grid.



(Total for Question 1 is 2 marks)

2 Here are a triangle and a rectangle.



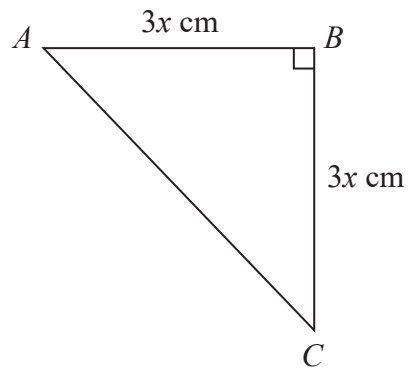
The area of the rectangle is 6 times the area of the triangle.

Work out the width of the rectangle.

..... cm

(Total for Question 2 is 4 marks)

- 3 ABC is an isosceles right-angled triangle.



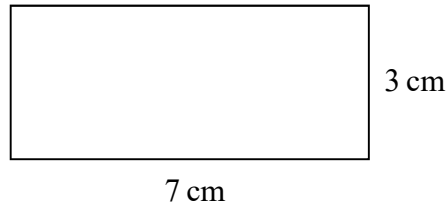
The area of the triangle is 162 cm^2

Work out the value of x .

$$x = \dots\dots\dots$$

(Total for Question 3 is 3 marks)

4 Here is a rectangle.



Coby has to find the perimeter of this rectangle.

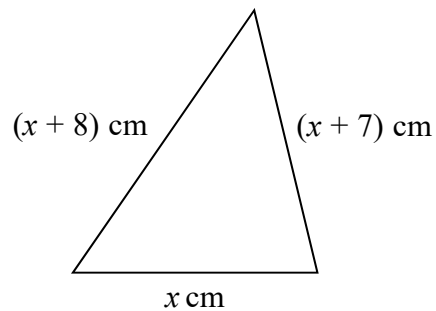
He writes,

$$\text{Perimeter} = 7 \times 3$$

(a) What mistake has Coby made?

(1)

Here is a triangle.



Iram solves a problem about this triangle to find the value of x .

Her answer is

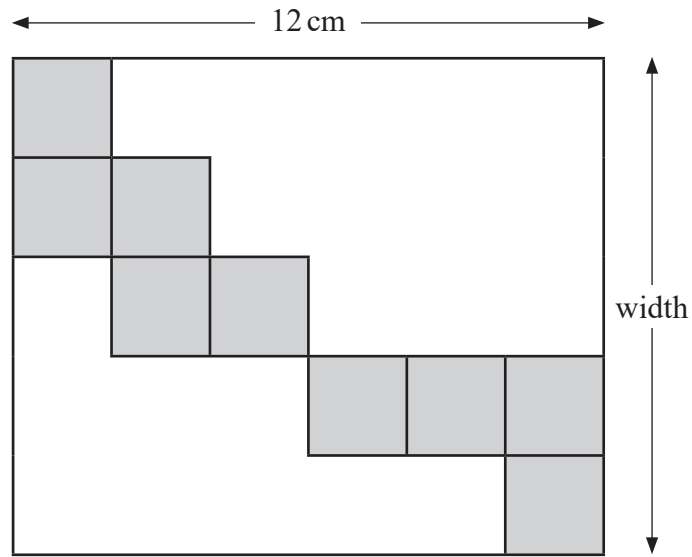
$$x = -2$$

(b) Explain why Iram's answer must be wrong.

(1)

(Total for Question 4 is 2 marks)

5 The diagram shows nine identical squares inside a rectangle.



The length of the rectangle is 12 cm.

Work out the width of the rectangle.

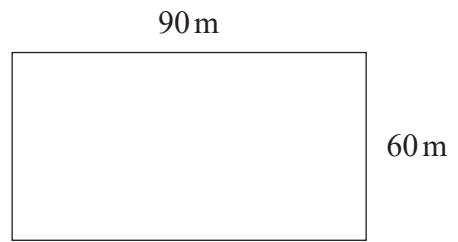
.....cm

(Total for Question 5 is 3 marks)

6 A garden is in the shape of a rectangle 90 m by 60 m.

Flowers are grown in 40% of the garden.
The rest of the garden is grass.

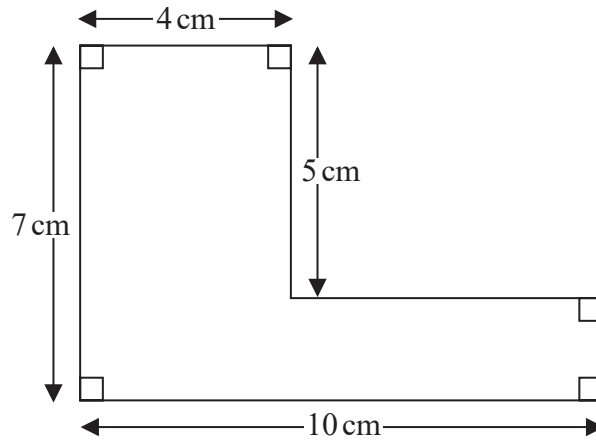
Work out the area of the garden that is grass.



.....m²

(Total for Question 6 is 4 marks)

7

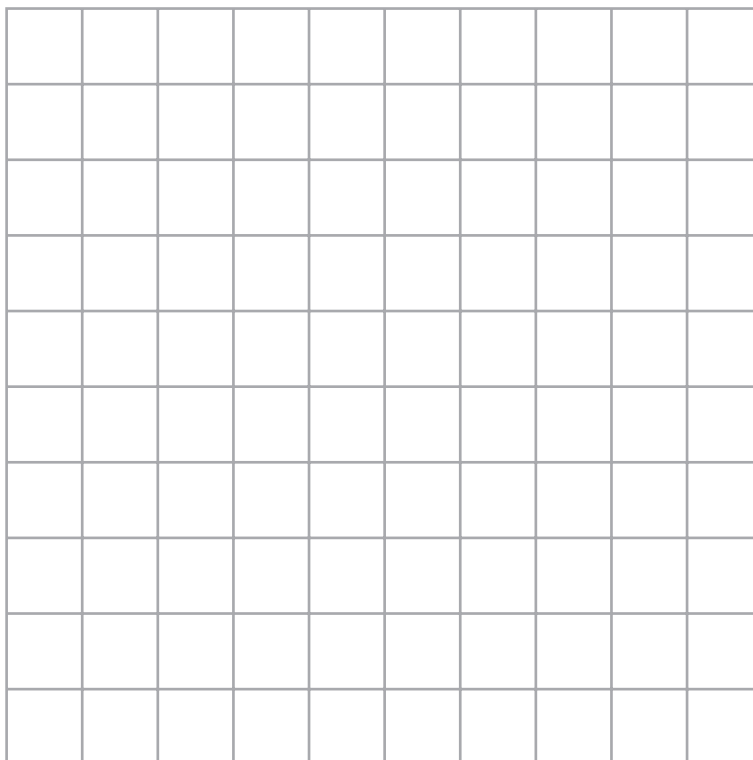


Work out the perimeter of this shape.

..... cm

(Total for Question 7 is 2 marks)

8 On the centimetre grid, draw an isosceles triangle with an area of 12 cm^2



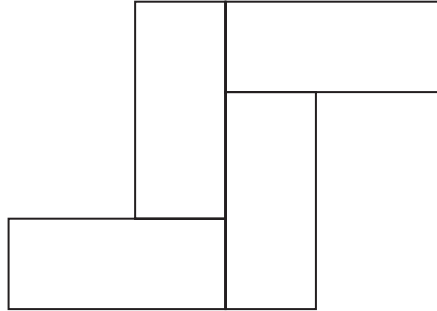
(Total for Question 8 is 2 marks)

9 Here is a rectangle.



The length of the rectangle is 7 cm longer than the width of the rectangle.

4 of these rectangles are used to make this 8-sided shape.



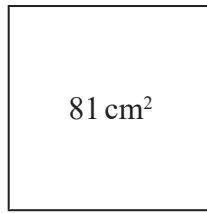
The perimeter of the 8-sided shape is 70 cm.

Work out the area of the 8-sided shape.

..... cm²

(Total for Question 9 is 5 marks)

10 A square has an area of 81 cm^2

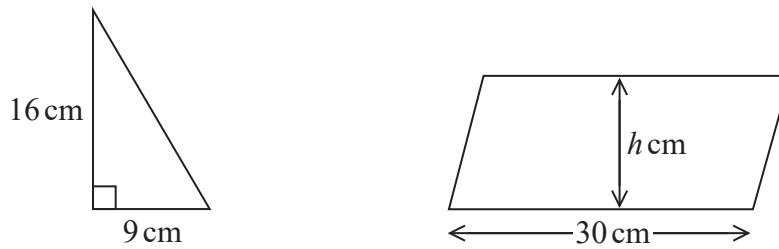


(a) Find the perimeter of the square.

.....cm

(2)

The diagram shows a right-angled triangle and a parallelogram.



The area of the parallelogram is 5 times the area of the triangle.
The perpendicular height of the parallelogram is $h \text{ cm}$.

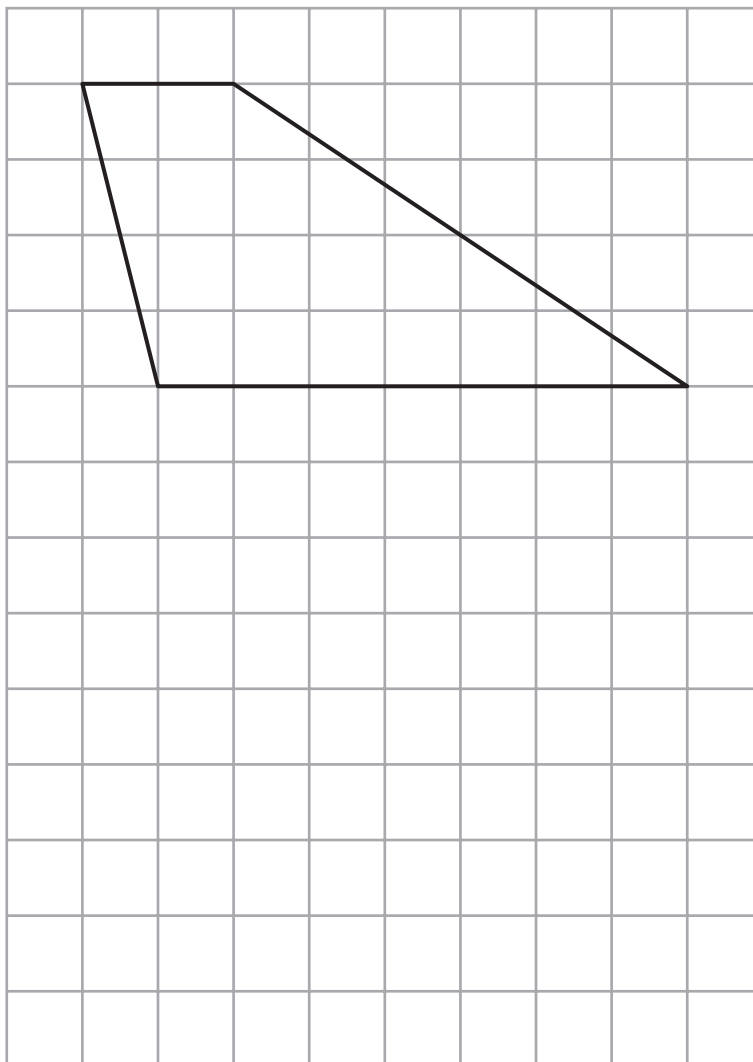
(b) Find the value of h .

$h =$

(3)

(Total for Question 10 is 5 marks)

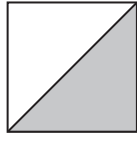
11 Here is a trapezium drawn on a centimetre grid.



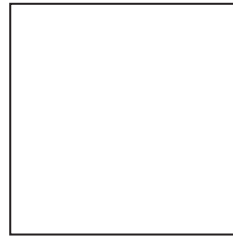
On the grid, draw a triangle equal in area to this trapezium.

(Total for Question 11 is 2 marks)

12 Here are two squares, **A** and **B**.



A



B

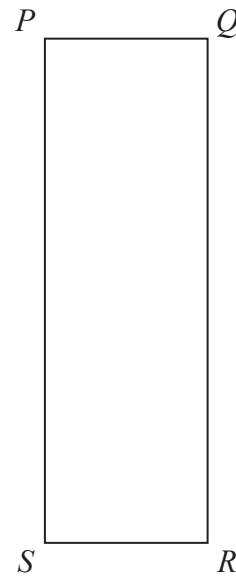
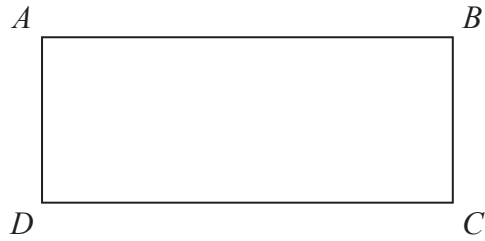
The length of the side of square **A** is 50% of the length of the side of square **B**.

Express the area of the shaded region of square **A** as a percentage of the area of square **B**.

..... %

(Total for Question 12 is 3 marks)

13 Here are two rectangles.



$$QR = 10 \text{ cm}$$

$$BC = PQ$$

The perimeter of $ABCD$ is 26 cm

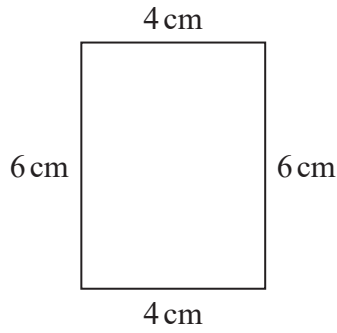
The area of $PQRS$ is 45 cm^2

Find the length of AB .

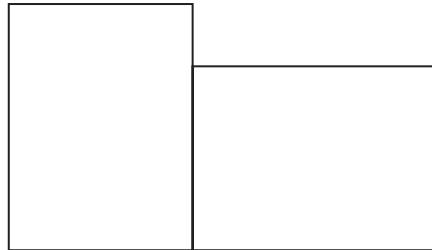
..... cm

(Total for Question 13 is 4 marks)

14 Here is a rectangle.



The 6-sided shape below is made from two of these rectangles.



Work out the perimeter of this 6-sided shape.

..... cm

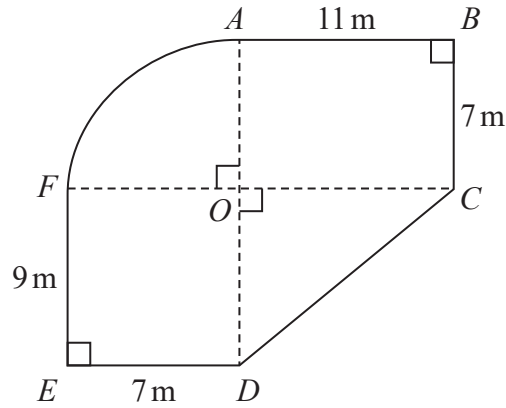
(Total for Question 14 is 3 marks)

15 The diagram shows a plan of Jason's garden.

$ABCO$ and $DEFO$ are rectangles.

CDO is a right-angled triangle.

AFO is a sector of a circle with centre O and angle $AOF = 90^\circ$



Jason is going to cover his garden with grass seed.

Each bag of grass seed covers 14 m^2 of garden.

Each bag of grass seed costs £10.95

Work out how much it will cost Jason to buy all the bags of grass seed he needs.

£.....

(Total for Question 15 is 5 marks)

16 Festival A will be in a rectangular field with an area of $80\,000\text{m}^2$
The greatest number of people allowed to attend Festival A is 425

Festival B will be in a rectangular field 700 m by 2000 m.
The greatest number of people allowed to attend Festival B is 6750

The area per person allowed for Festival B is greater than the area per person allowed for Festival A.

- (a) How much greater?
Give your answer correct to the nearest whole number.

..... m^2
(4)

Callum says,

“ 300 cm^2 is the same as 3 m^2 because there are 100 cm in 1 m so you divide by 100”

Callum’s method is wrong.

- (b) Explain why.

.....

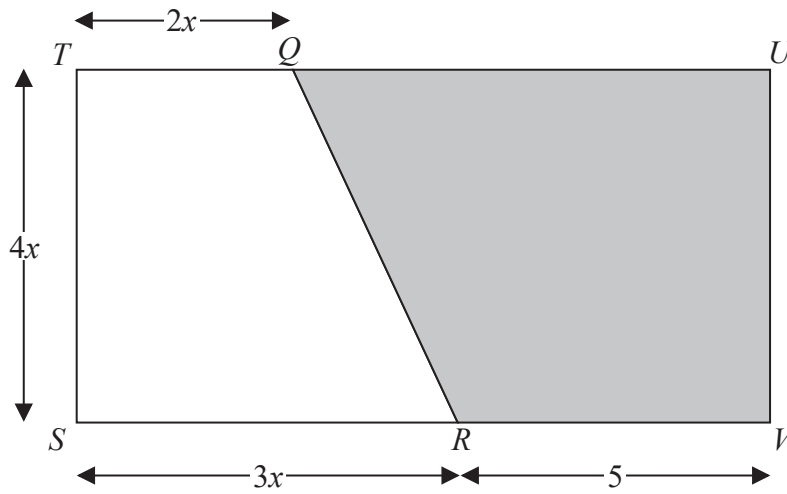
.....

.....

(1)

(Total for Question 16 is 5 marks)

- 17 The diagram shows rectangle $STUV$.
 TQU and SRV are straight lines.
All measurements are in cm.



The area of trapezium $QUVR$ is $A \text{ cm}^2$

Show that $A = 2x^2 + 20x$

(Total for Question 17 is 3 marks)