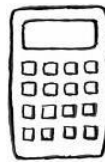


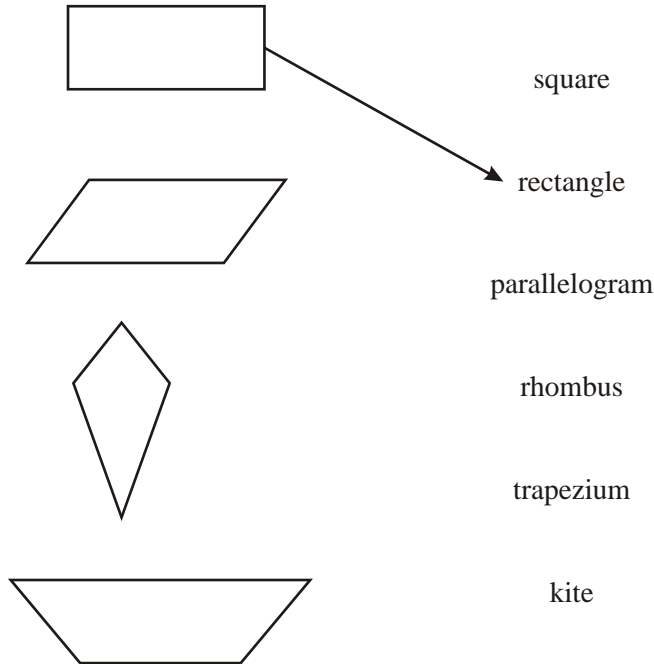
Name:

Teacher Assessment



**Section A**                      **Properties of Shapes**                      **Grade G / F**

1. Draw arrows on the diagram to match each shape with its name.  
The first arrow has been drawn for you.

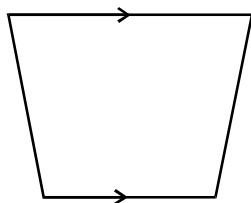


(Total 3 marks)

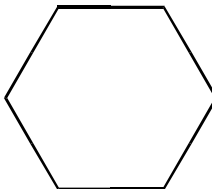
2. The names of five shapes are given.

parallelogram    triangle    rectangle    trapezium    hexagon

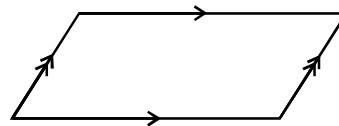
Three of them are drawn below.



P



Q



R

Complete these statements.

Shape P is called a .....

Shape Q is called a .....

Shape R is called a .....

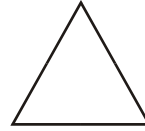
(3)

- (c) How many sides has an octagon?

Answer .....

(1)(Total 4 marks)

3. In this triangle all the sides are the same length.

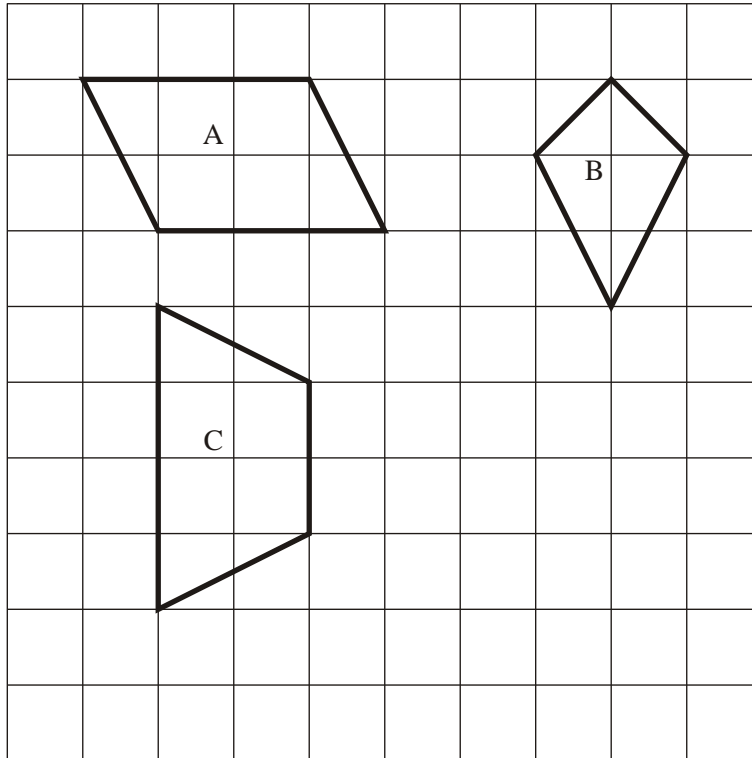


What name is given to this special type of triangle?

Answer .....

(Total 1 mark)

4. Matthew is drawing different quadrilaterals on a square grid. Here are three of his quadrilaterals.



- (a) What name is given to each quadrilateral?

Answer      Quadrilateral A .....

                  Quadrilateral B .....

                  Quadrilateral C .....

(3)

- (b) (i) On the grid draw a different type of quadrilateral.

(1)

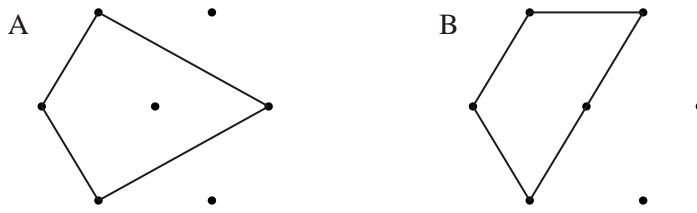
- (ii) What is the name of the quadrilateral you have drawn?

Answer .....

(1)

(Total 5 marks)

5. Frank draws two quadrilaterals on a seven-point triangular grid.



(a) (i) What special name is given to quadrilateral A?

Answer .....

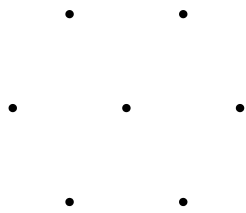
(1)

(ii) What special name is given to quadrilateral B?

Answer .....

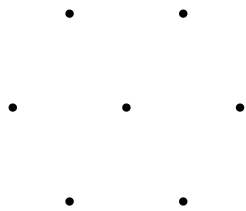
(1)

(b) By joining 4 dots on the seven-point grid below draw a rectangle.



(1)

(c) By joining 3 dots on the seven-point grid below draw an equilateral triangle.

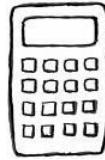


(1)

**(Total 4 marks)**

Success:

Target:

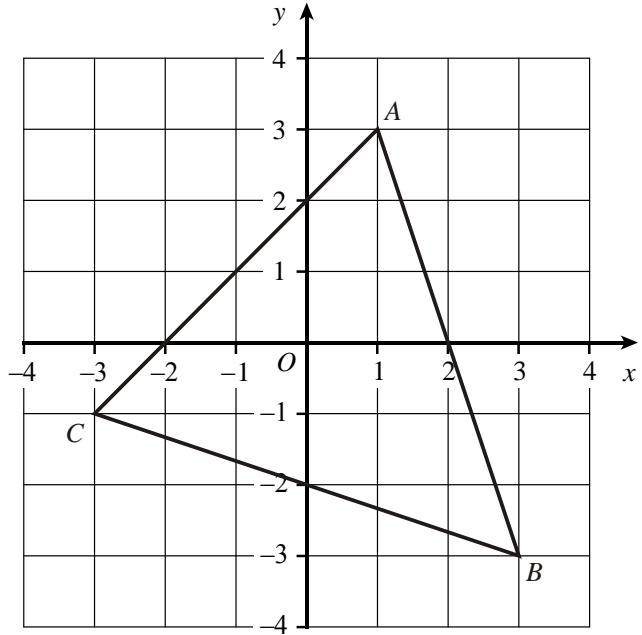


**Section B**

**Plotting co-ordinates**

**Grade G → D**

1. Triangle  $ABC$  is drawn on a grid.



Write down the coordinates of  $A$ ,  $B$  and  $C$ .

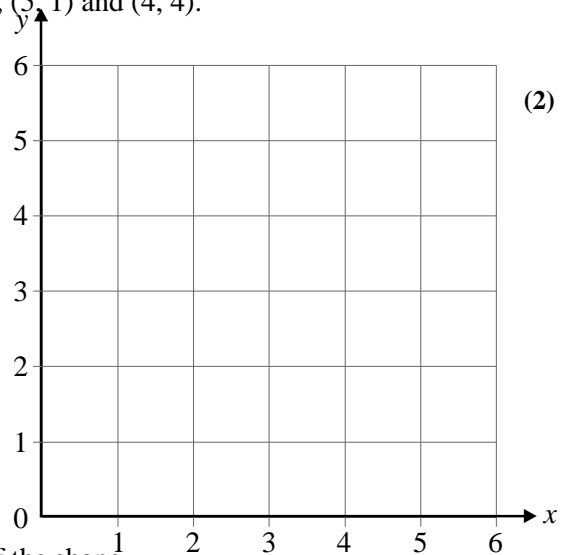
Answer  $A$  (....., .....

$B$  (....., .....

$C$  (....., .....

**(Total 3 marks)**

2. (a) On the grid plot the points with coordinates  $(3, 1)$ ,  $(5, 1)$  and  $(4, 4)$ .



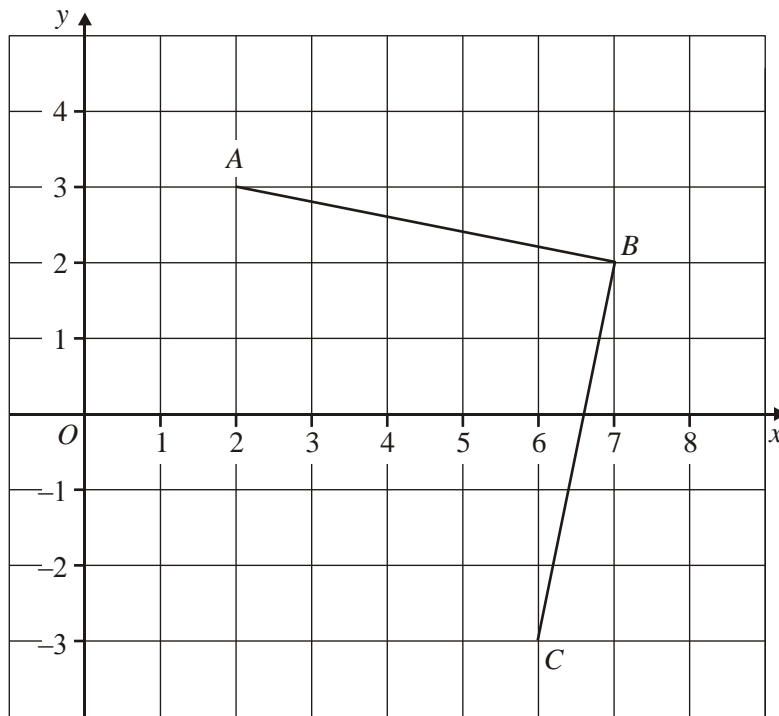
- (b) Join the points and give the mathematical name of the shape.

Answer .....

**(1)**

**(Total 3 marks)**

3. Two sides of a square are shown on the grid.



- (a) Write down the coordinates of A.

Answer ( ..... , ..... )

(1)

- (b) Write down the coordinates of C.

Answer ( ..... , ..... )

(1)

- (c) Draw two more lines to complete the square  $ABCD$ .

(1)

- (d)  $M$  is the mid-point of  $AC$ .

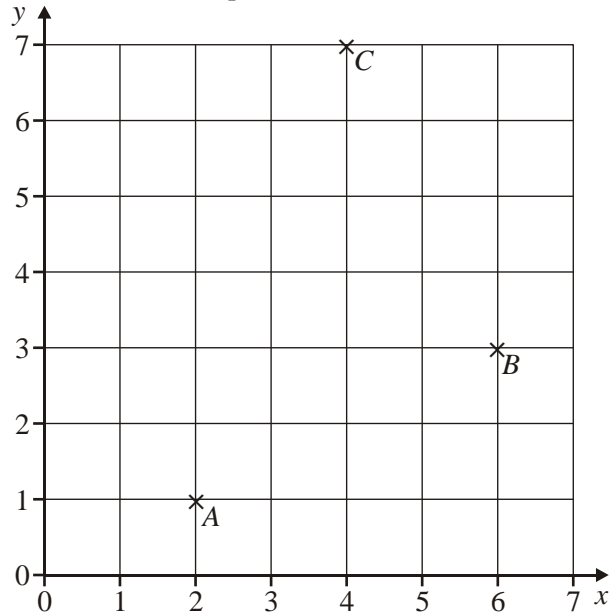
Work out the coordinates of  $M$ .

Answer ( ..... , ..... )

(2)

(Total 5 marks)

4. Points  $A$ ,  $B$  and  $C$  are three corners of a square  $ABCD$ .



- (a) Write down the coordinates of  $A$ ,  $B$  and  $C$ .

$A$  (..... , .....)

$B$  (..... , .....)

$C$  (..... , .....)

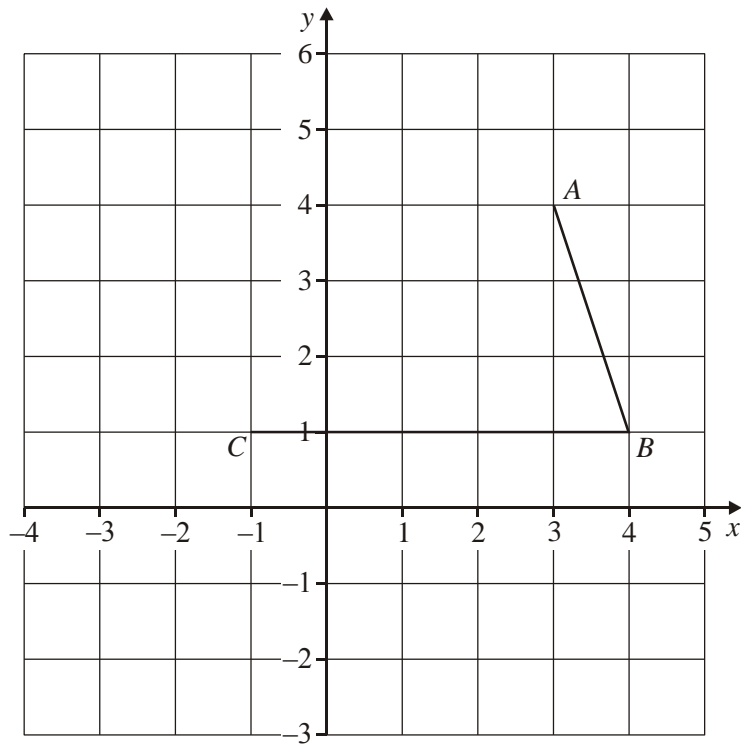
(2)

- (b) The point  $D$  (0, 5) is the fourth corner of the square.  
Mark, with **X**, the position of the point  $D$  on the grid.

(1)

(Total 3 marks)

5. Two sides of a parallelogram are drawn on the grid below.



- (a) Write down the coordinates of the point A.

Answer ( ..... , ..... )

(1)

- (b) Write down the coordinates of the point C.

Answer ( ..... , ..... )

(1)

- (c) (i) Draw two more lines to complete the parallelogram  $ABCD$ .

(1)

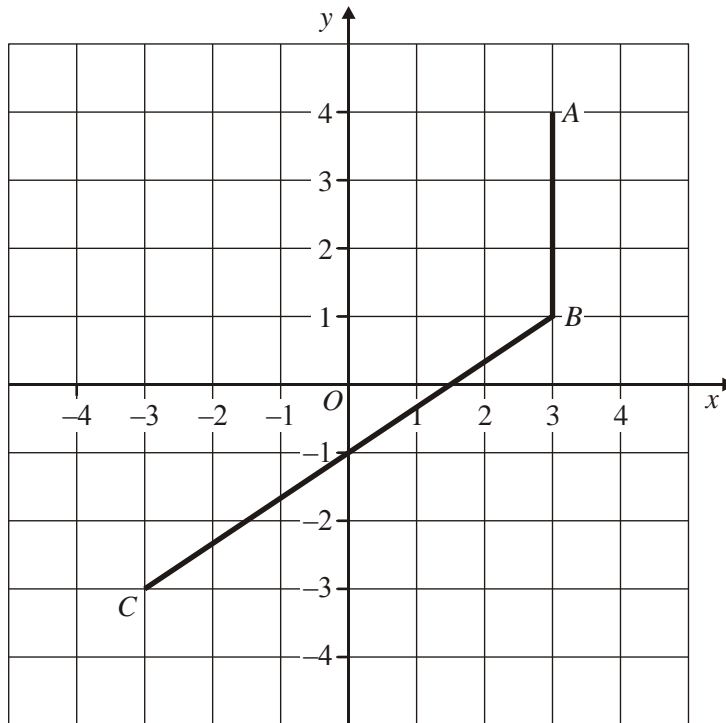
- (ii) Write down the coordinates of  $D$ .

Answer ( ..... , ..... )

(1)

**(Total 4 marks)**

6. Two sides of a parallelogram are drawn below



(a) Write down the coordinates of the point *A*.

Answer ( ..... , ..... )

(1)

(b) Write down the coordinates of the point *C*.

Answer ( ..... , ..... )

(1)

(c) (i) Draw two lines to complete the parallelogram *ABCD*.

(1)

(ii) Write down the coordinates of the point *D*.

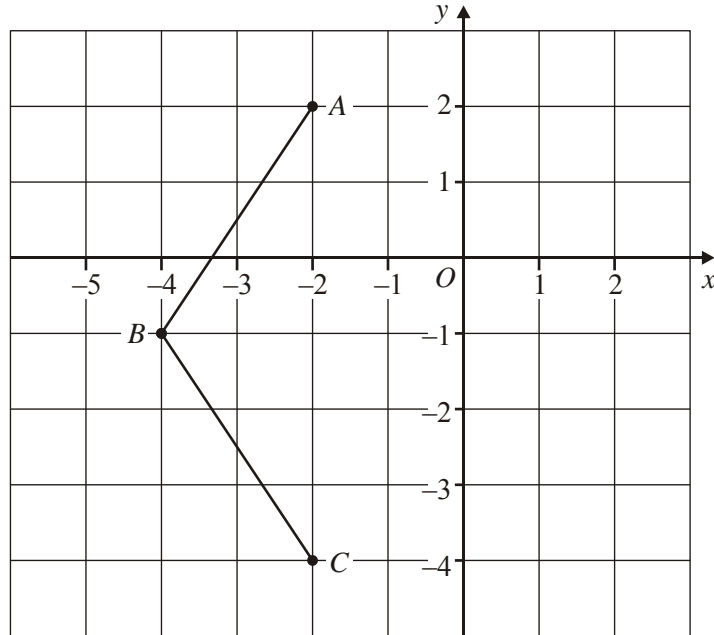
Answer ( ..... , ..... )

(1)

(Total 4 marks)



7. (a)  $AB$  and  $BC$  are two sides of a rhombus  $ABCD$ .



- (i) Draw the rhombus  $ABCD$ .

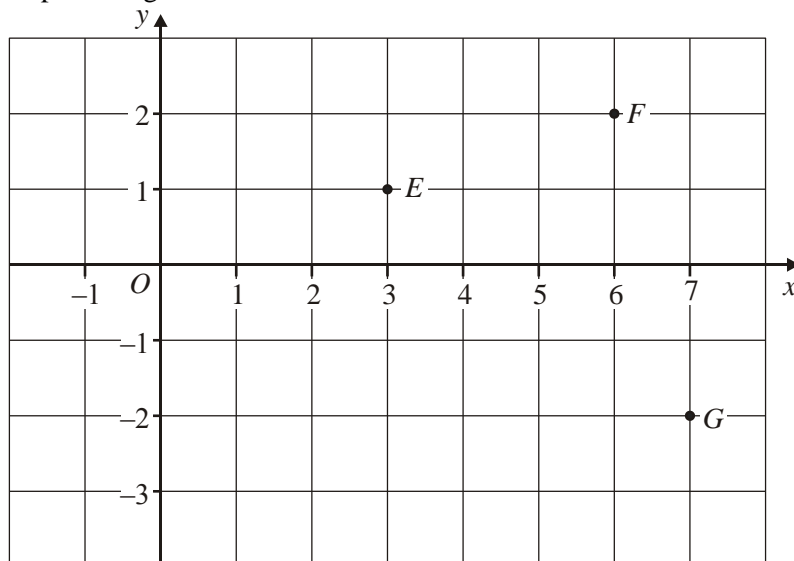
(1)

- (ii) Write down the coordinates of  $D$ .

Answer  $D$  ( ..... , ..... )

(1)

- (b)  $EFGH$  is a parallelogram.



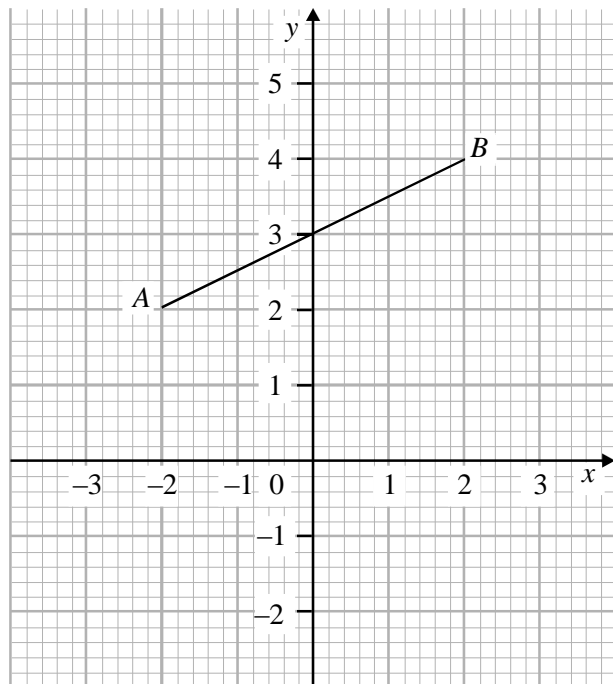
Write down the coordinates of  $H$ .

Answer  $H$  ( ..... , ..... )

(2)

(Total 3 marks)

8. Two points,  $A$  and  $B$ , are marked on the grid.



(a) Write down the coordinates of  $B$ .

Answer .....

(1)

(b) Plot the point  $(2, 1)$  and label it  $C$ .

(1)

(c) Plot another point  $D$  so that  $ABCD$  is a parallelogram.

(1)

(d) Write down the coordinates of  $D$ .

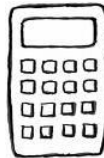
Answer .....

(1)

(Total 4 marks)

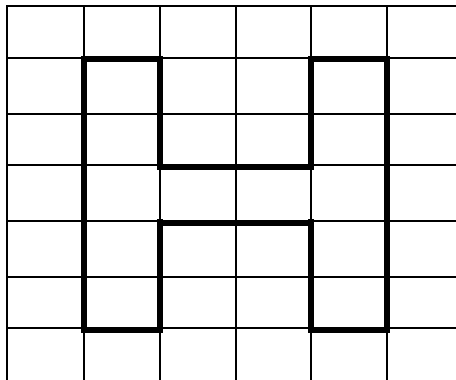
Success:

Target:



**Section C      Calculating Perimeter and Area      Grade F → C**

1. The letter H shape is drawn on a centimetre square grid.



(a) Write down the perimeter of the shape.

.....

Answer ..... cm

(1)

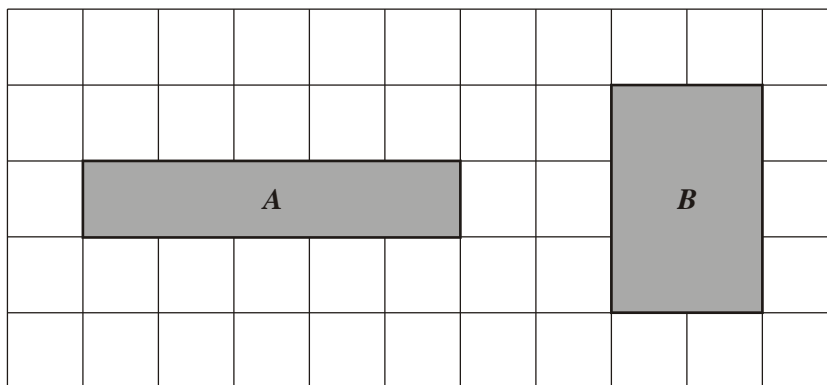
(b) Write down the area of the shape.

.....

Answer ..... cm<sup>2</sup>

(1)(Total 2 marks)

2. The diagram shows two rectangles, *A* and *B*.



Which rectangle has the greater perimeter? You **must** show your working.

.....

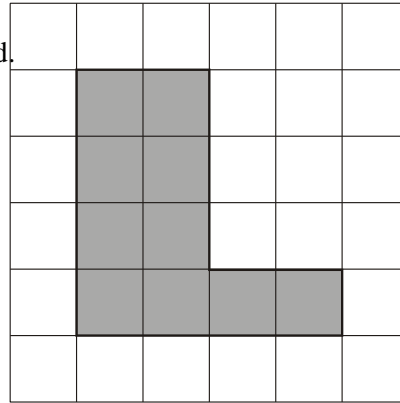
.....

.....

Answer .....

(Total 3 marks)

3. This L shape is drawn on a centimetre square grid.

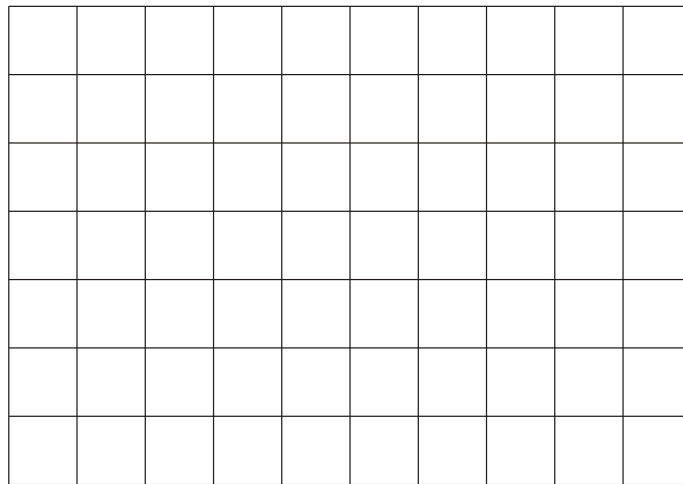


(a) Find the area of this shape.

Answer .....  $\text{cm}^2$

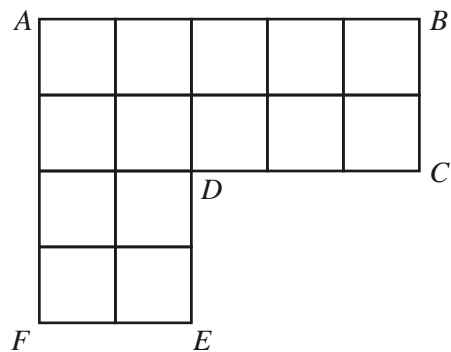
(1)

(b) On the grid below, draw a rectangle with the same area as the L shape.



(2)(Total 3 marks)

4. The diagram shows a shape  $ABCDEF$  drawn on a 1 cm grid.



(a) Work out the area of the shape  $ABCDEF$ .

.....  
.....

Answer .....  $\text{cm}^2$

(1)

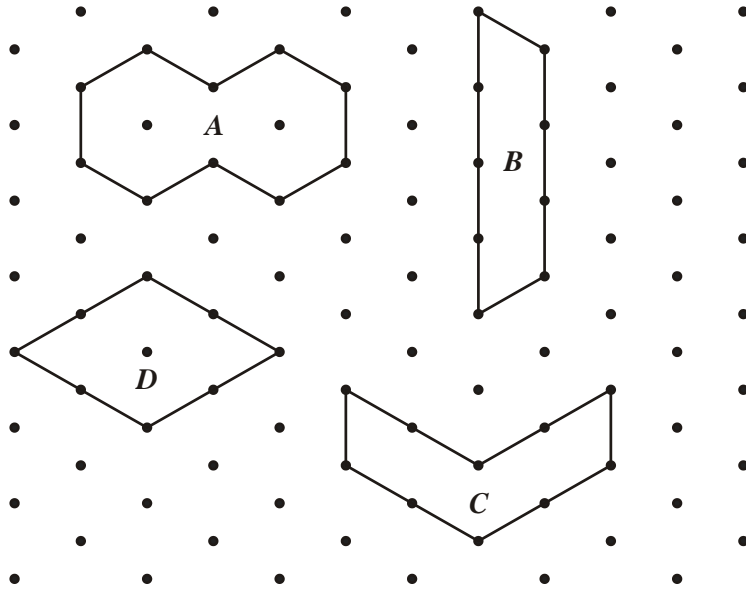
(b) Work out the perimeter of the shape  $ABCDEF$ .

.....  
.....

Answer ..... cm

(1) (Total 2 marks)

5. Some shapes are drawn on a 1 centimetre triangular grid.



(a) Which **two** shapes have the same perimeter?

Answer .....

(1)

(b) Which **two** shapes have the same area?

Answer .....

(2)

(c) Which shape is a rhombus?

Answer .....

(1)

(d) Which shape is a trapezium?

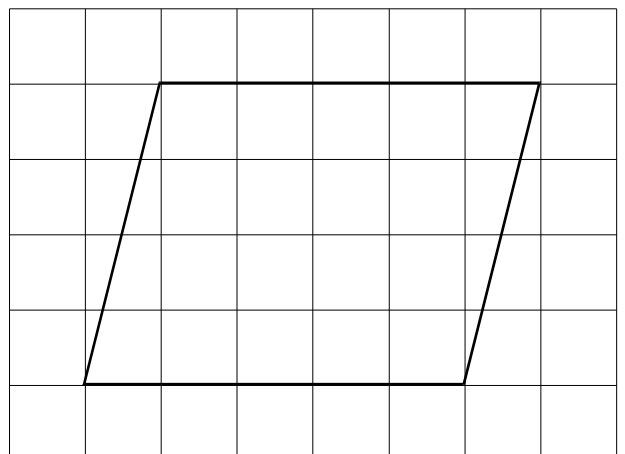
Answer .....

(1)(Total 5 marks)

6. A parallelogram is drawn on a centimetre square grid.

Calculate the area of the parallelogram.

.....  
 .....  
 .....  
 .....  
 .....



Answer .....  $\text{cm}^2$

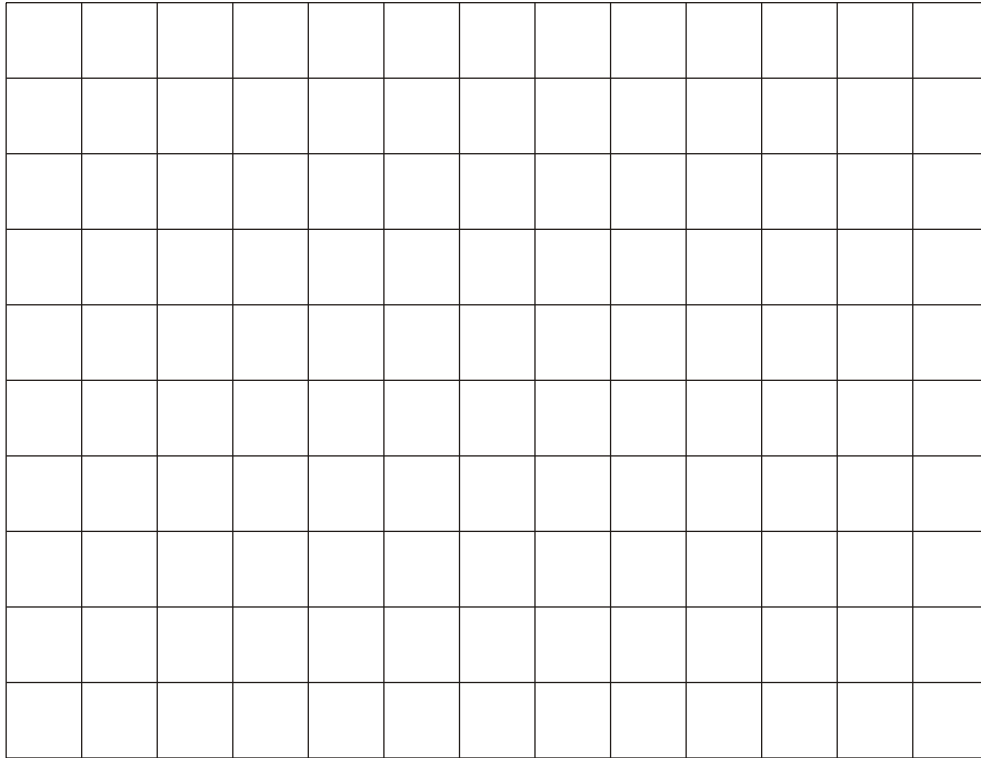
(Total 2 marks)

7. A rectangle has an area of  $40 \text{ cm}^2$  and a perimeter of 26 cm.  
Find the length and width of the rectangle. You may use the grid to help you.

.....

.....

.....

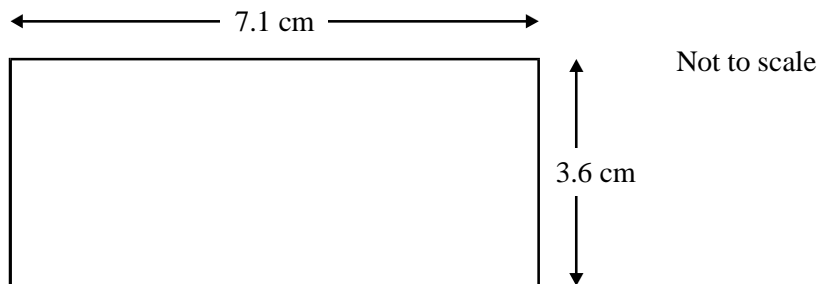


Answer Length ..... cm

Width ..... cm

**(Total 2 marks)**

8. A rectangle has length 7.1 cm and width 3.6 cm.



- (a) Calculate the area of the rectangle. Give your answer to 1 decimal place.

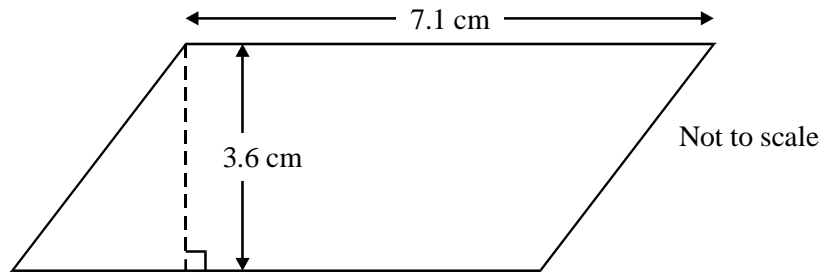
.....

.....

Answer .....  $\text{cm}^2$

**(3)**

(b) The diagram shows a parallelogram.

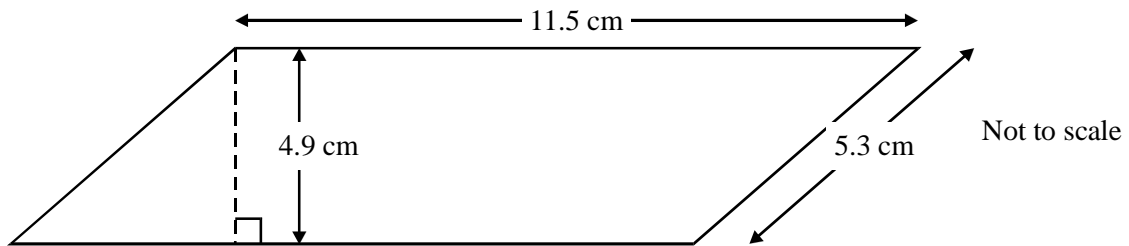


Explain why the area of the parallelogram is equal to the area of the rectangle.

.....  
.....

(1)

(c) This diagram shows a different parallelogram of length 11.5 cm, height 4.9 cm and slant height 5.3 cm.



Calculate the area of this parallelogram.

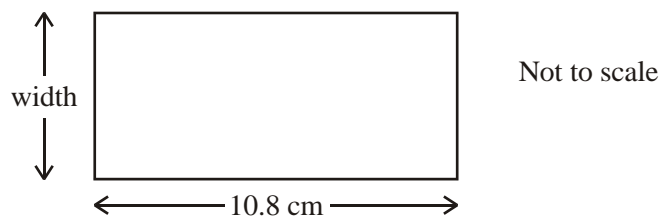
.....  
.....

Answer ..... cm<sup>2</sup>

(2)

(Total 6 marks)

9. The length of a rectangle is 10.8 cm. The perimeter of the rectangle is 28.8 cm.



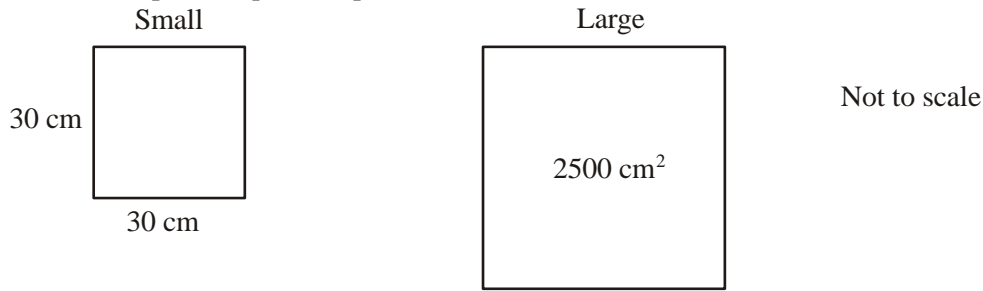
Calculate the width of the rectangle.

.....  
.....

Answer ..... cm

(Total 3 marks)

10. A shop sells square carpet tiles in two different sizes.



(a) What is the area of a small carpet tile?

.....

Answer ..... cm<sup>2</sup>

(2)

(b) What is the length of a side of a large carpet tile?

.....

Answer ..... cm

(1)

(c) The floor of a rectangular room is 300 cm long and 180 cm wide.  
How many **small** tiles are needed to carpet the floor?

.....

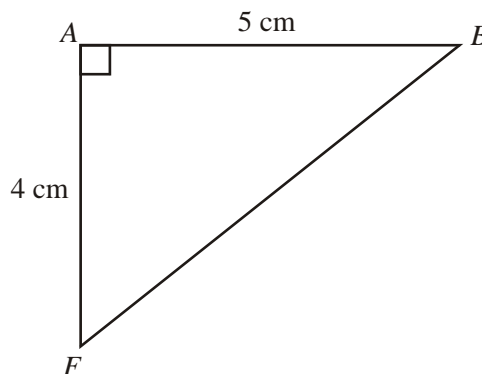
.....

.....

Answer .....

(3)(Total 6 marks)

11. Work out the area of the triangle  $ABF$ .



.....

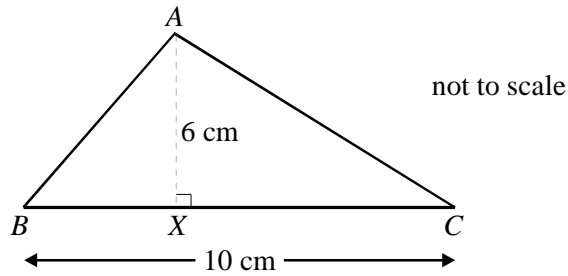
.....

Answer ..... cm<sup>2</sup>

(Total 2 marks)



12. The diagram shows a triangle  $ABC$ . The base  $BC = 10$  cm.  
The perpendicular height  $AX = 6$  cm.

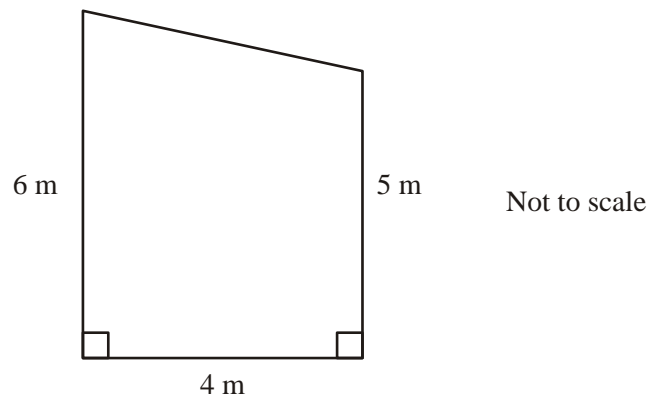


Calculate the area of the triangle.

.....  
.....

Answer..... $\text{cm}^2$  (Total 2 marks)

13. The diagram shows the side wall of a building.

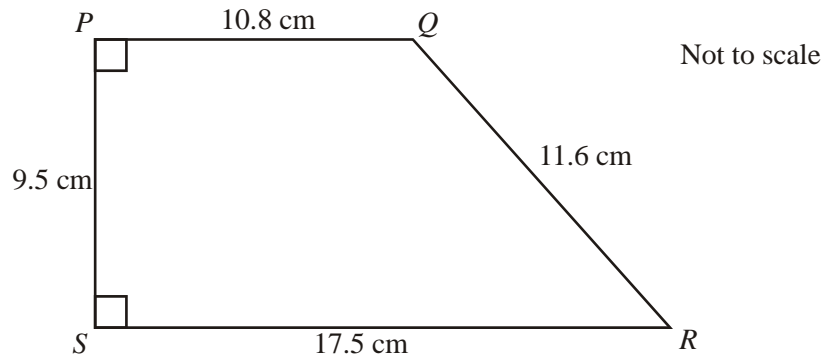


Calculate the area of the wall.  
You **must** show all your working.

.....  
.....  
.....  
.....  
.....

Answer ..... (Total 4 marks)

14. In the diagram below,  $PQ = 10.8$  cm,  $QR = 11.6$  cm,  $RS = 17.5$  cm and  $PS = 9.5$  cm. The angles at  $P$  and  $S$  are  $90^\circ$



Calculate the area of  $PQRS$ .

.....

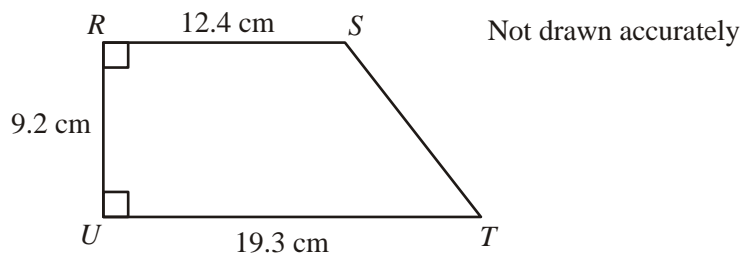
.....

.....

.....

Answer .....  $\text{cm}^2$   
(Total 3 marks)

15. In the diagram,  $RS = 12.4$  cm,  $RU = 9.2$  cm and  $UT = 19.3$  cm  
The angles at  $R$  and  $U$  are  $90^\circ$



Calculate the area of  $RSTU$ .

.....

.....

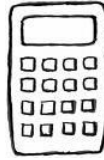
.....

.....

Answer .....  $\text{cm}^2$   
(Total 3 marks)

Success:

Target:

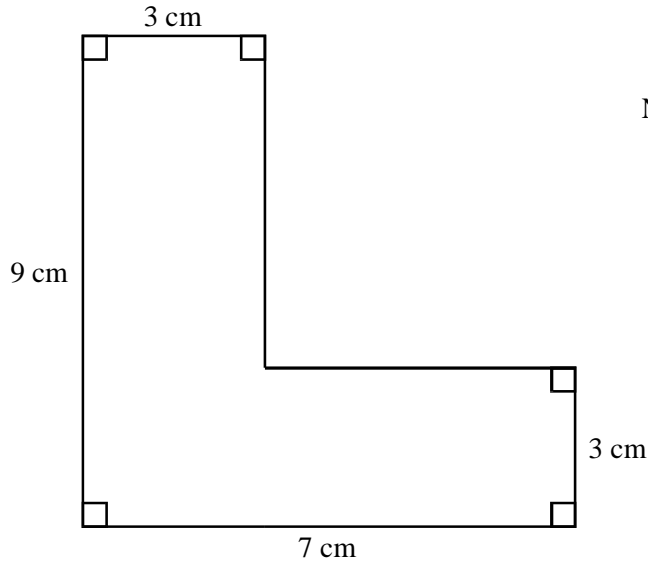


Section D

Compound Shapes

Grade C

1. Calculate the area of this shape.



Not to scale

You **must** show all your working.

.....

.....

.....

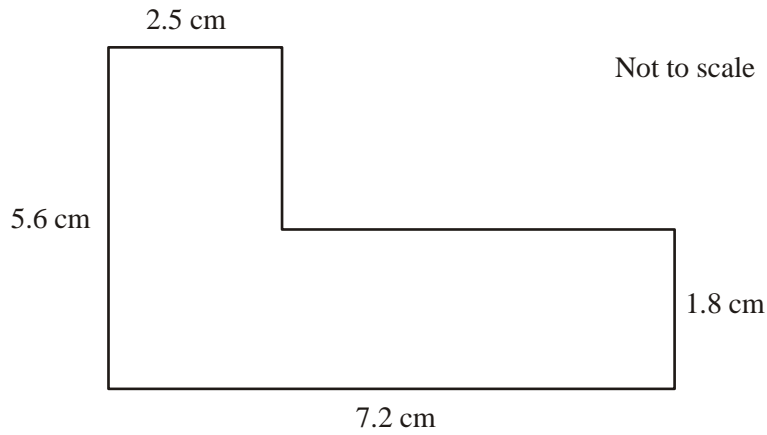
.....

.....

.....

Answer .....  $\text{cm}^2$   
(Total 3 marks)

2. (a) This L-shape is made of rectangles.



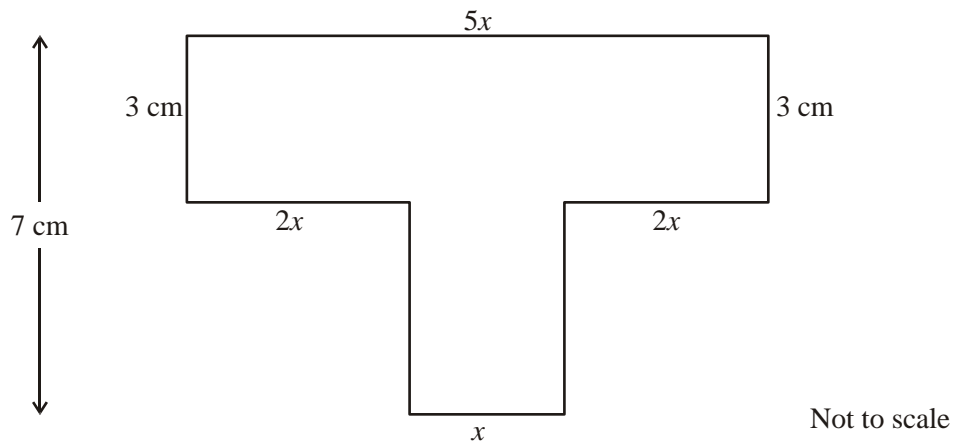
Calculate the area of the L-shape.

.....  
 .....  
 .....

Answer .....  $\text{cm}^2$

(3)

- (b) This T-shape is also made of rectangles.



The perimeter of the T-shape is 29 cm.

Work out the value of  $x$ .

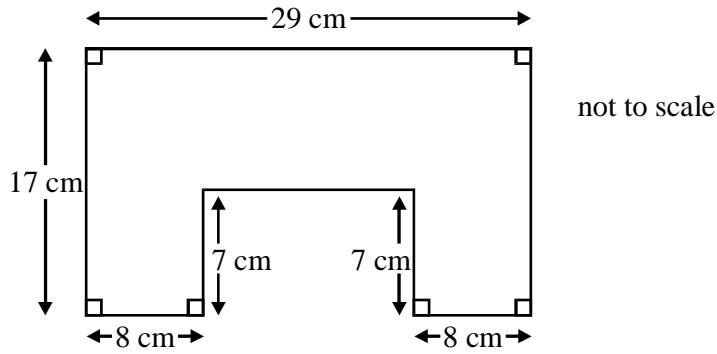
.....  
 .....  
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 .....

Answer ..... cm

(4)

(Total 7 marks)

3.



Calculate the area of the shape.

.....

.....

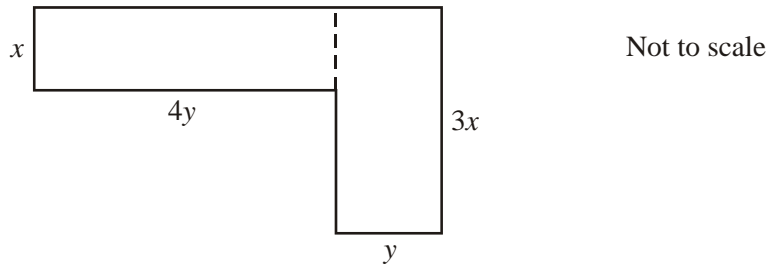
.....

.....

.....

Answer.....cm<sup>2</sup>  
(Total 3 marks)

4. This shape is made up of rectangles.



(a) Write down an expression, in terms of  $x$  and  $y$ , for the **perimeter** of the shape.

.....

.....

.....

Answer .....  
(2)

(b) If  $x = 2$  cm and  $y = 5$  cm, find the **area** of the shape.

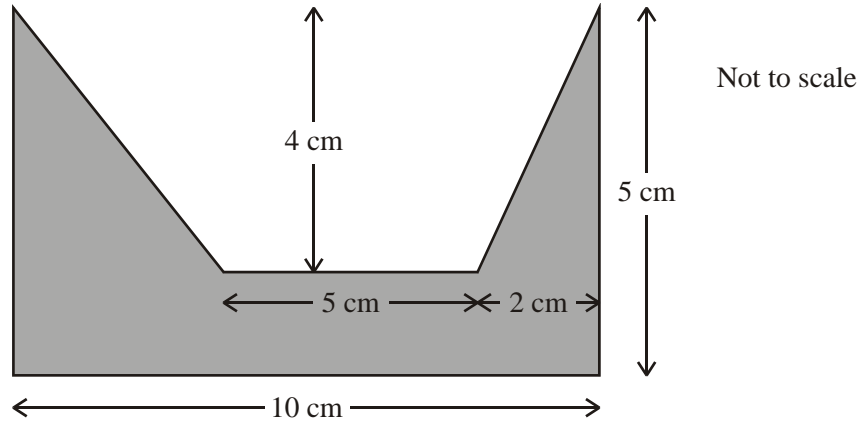
.....

.....

.....

Answer ..... cm<sup>2</sup>  
(2)(Total 4 marks)

5. A shape has dimensions as shown.



Calculate the shaded area.

.....

.....

.....

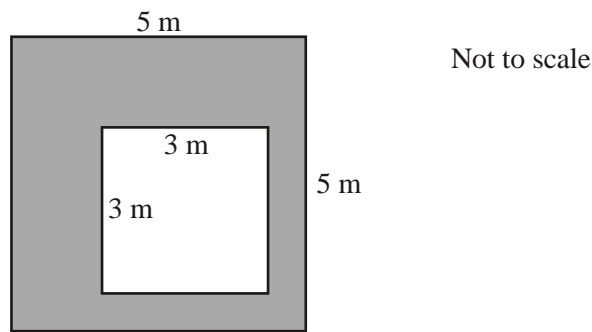
.....

.....

.....

Answer .....  $\text{cm}^2$   
(Total 3 marks)

6. What percentage of this shape is shaded?



.....

.....

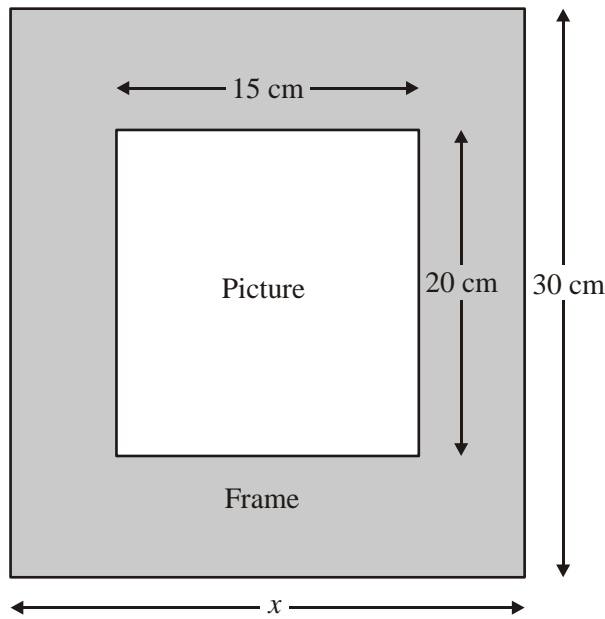
.....

.....

.....

Answer ..... %  
(Total 4 marks)

7. The diagram shows a rectangular picture with a frame around it. The frame is the same width all the way round. The picture is 15 cm wide and 20 cm high. The total height of the picture **and** frame is 30 cm.



Not drawn accurately

- (a) Work out the width  $x$ , shown on the diagram.

.....  
 .....  
 .....  
 .....

Answer ..... cm

(3)

- (b) Work out the area of the frame. State the units of your answer.

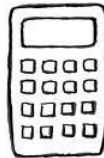
.....  
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Answer .....

(4)(Total 7 marks)

Success:

Target:

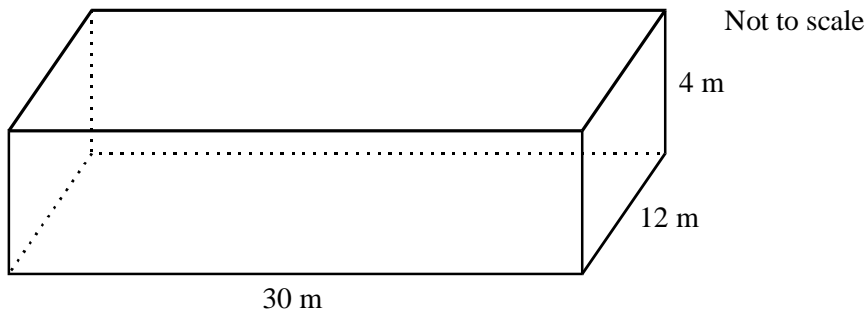


Section E

Volume and Surface Area

Grade C

1. A school hall is in the shape of a cuboid.



- (a) The school hall is 30 m long, 12 m wide and 4 m high.

- (i) Calculate the volume of the hall.

.....  
.....

Answer ..... m<sup>3</sup>

(2)

- (ii) Calculate the total area of the **four walls** of the hall.

.....  
.....  
.....  
.....  
.....

Answer ..... m<sup>2</sup>

(3)

- (b) The school buys **ten** 5 litre tins of paint to paint the hall. The area to be painted is 279 m<sup>2</sup>. Each tin covers 30 m<sup>2</sup>. Calculate the percentage of paint used.

.....  
.....  
.....  
.....

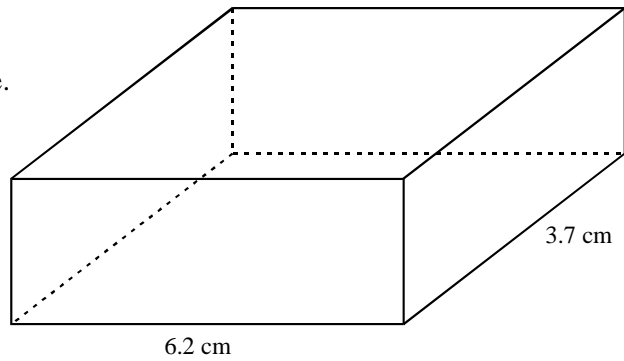
Answer ..... %

(3)

(Total 8 marks)



2. A cuboid is shown below.  
The cuboid has volume  $60 \text{ cm}^3$ .  
The base is  $6.2 \text{ cm}$  long and  $3.7 \text{ cm}$  wide.

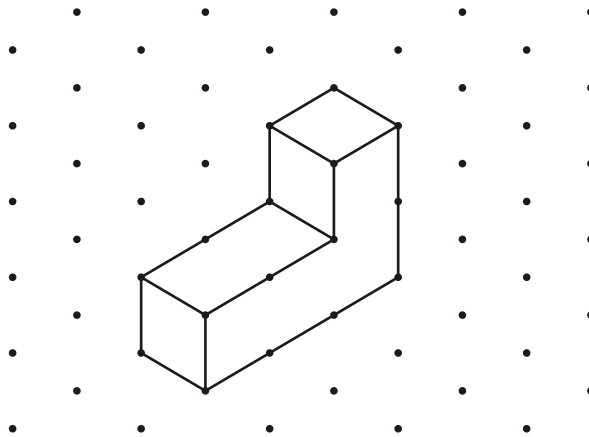


- (a) Calculate the height of the cuboid.  
Give your Answer to a sensible degree of accuracy.

.....  
.....

Answer ..... cm  
**(Total 3 marks)**

3. The diagram shows a solid shape made from 4 one-centimetre cubes.



What is the surface area of the solid shape?

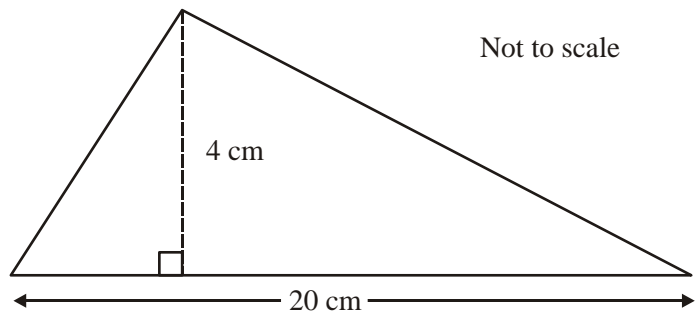
.....  
.....

Answer.....  
**(Total 3 marks)**

4. (a) The diagram shows a triangle with base  $20 \text{ cm}$  and perpendicular height  $4 \text{ cm}$ .

Calculate the area of the triangle.  
State the units of your answer.

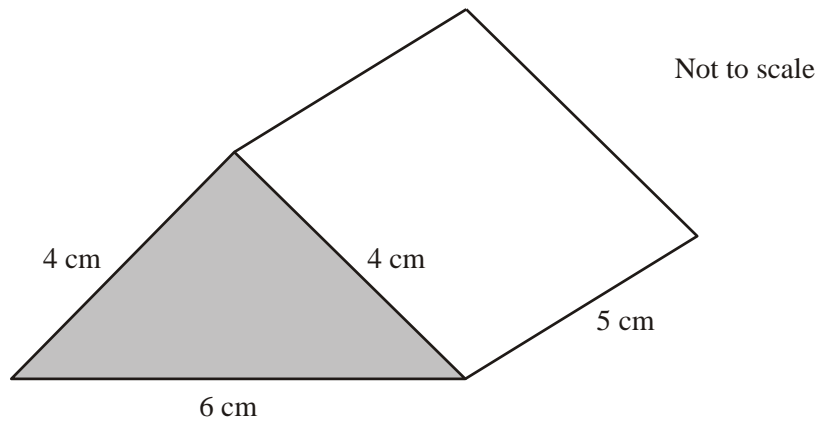
.....  
.....  
.....



Answer .....

**(3)**

(b) The diagram shows a triangular prism.



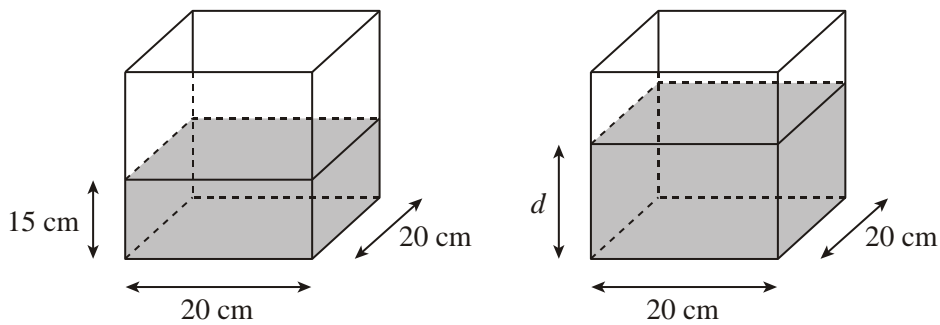
The area of the cross-section is  $9.1 \text{ cm}^2$ . Work out the volume of the triangular prism.

.....  
 .....

Answer .....  $\text{cm}^3$   
 (2)(Total 5 marks)

5. A water container is in the shape of a cuboid.  
 Its base is 20 cm by 20 cm and the depth of the water in the container is 15 cm.  
 Tony adds  $1000 \text{ cm}^3$  of water to the container.

Not drawn accurately



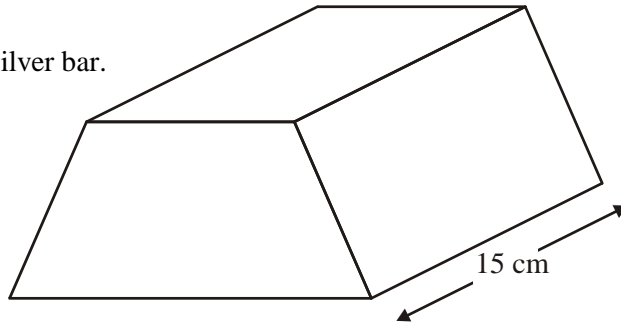
Calculate the new depth,  $d$ , of the water, in centimetres.

.....  
 .....

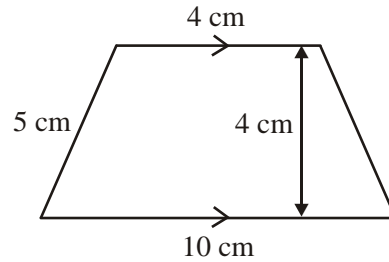
Answer ..... cm  
 (Total 4 marks)

6. The diagram shows a silver bar.

Not to scale



The cross-section of the silver bar is a trapezium.



Not to scale

(a) Calculate the area of the cross-section.

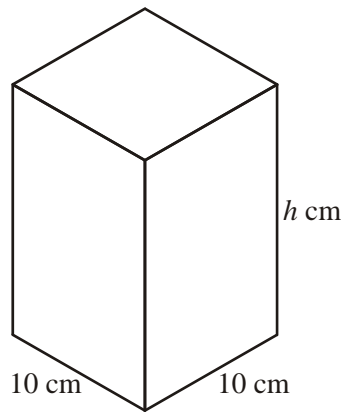
.....  
 .....  
 .....

Answer ..... cm<sup>2</sup>

(2)

(b) The silver bar is 15 cm long. The bar is melted and the silver is then made into a cuboid. The base of the cuboid is 10 cm by 10 cm.

Not to scale



What is the height,  $h$ , of the cuboid?

.....  
 .....  
 .....  
 .....  
 .....

Answer ..... cm

(3)(Total 5 marks)

Success:

Target: