

AREA, PYTHAGORAS THEOREM AND SOHCAHTOA GCSE MATHS
EDEXCEL PASTPAPER QUESTIONS – None Calculator

1.

1

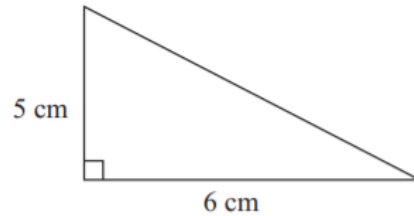


Diagram **NOT**
accurately drawn

Work out the area of this triangle.

.....
(Total for Question 1 is 3 marks)

2.

The diagram shows a triangular prism.

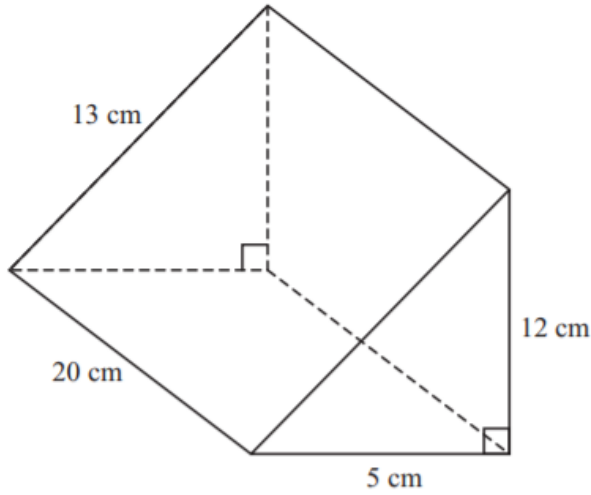


Diagram **NOT** accurately drawn

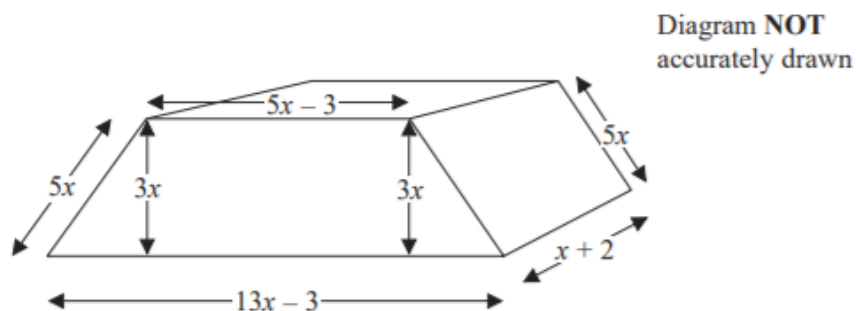
Work out the total surface area of the prism.

..... cm²

(Total for Question 8 is 3 marks)

3.

The cross section of the prism is a trapezium.

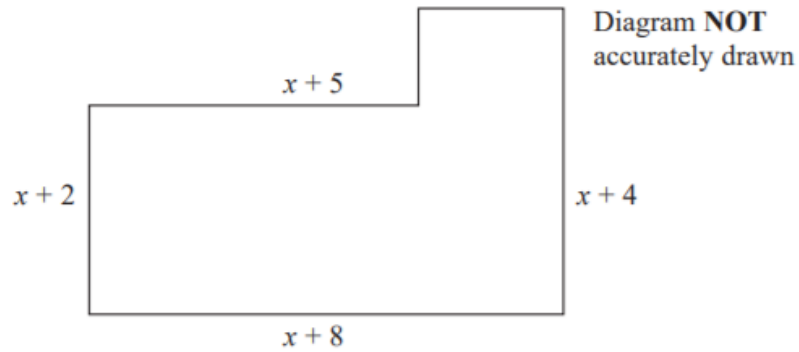


Show that the total surface area of the prism is $82x^2 + 32x - 12$

(Total for Question 14 is 4 marks)

4.

Here is a shape.



All the measurements are in centimetres.
All the corners are right angles.

The area of the shape is A cm².

Find a formula for A in terms of x .
Give your answer in its simplest form.

$A = \dots\dots\dots$

(Total for Question 13 is 4 marks)

5.

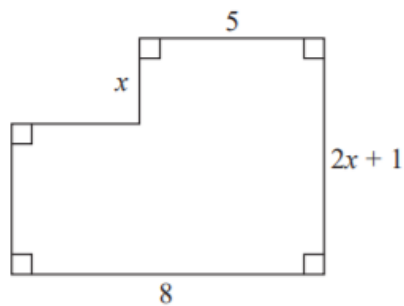


Diagram **NOT**
accurately drawn

Here is a shape.

All the measurements are in metres.

The area of the shape is $A \text{ m}^2$.

Find a formula for A in terms of x .

.....
(Total for Question 5 is 3 marks)

6.

The diagram shows a pentagon.

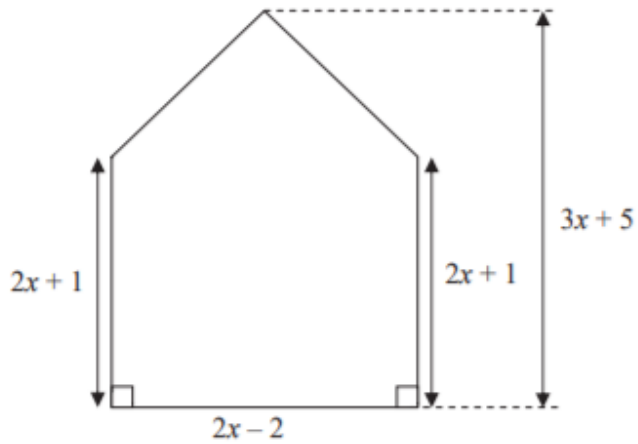


Diagram NOT
accurately drawn

All measurements are in centimetres.

Show that the area of this pentagon can be written as $5x^2 + x - 6$

(Total for Question 14 is 4 marks)

7.

Jake makes a picture frame from 4 identical pieces of card.
Each piece of card is in the shape of a trapezium.

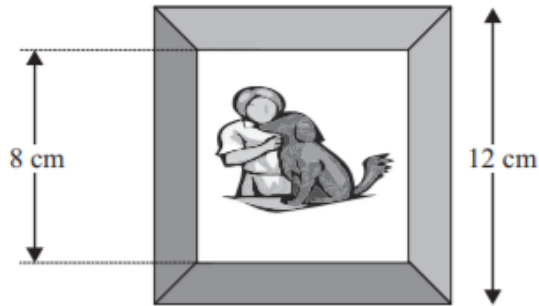


Diagram **NOT**
accurately drawn

The outer edge of the frame is a square of side 12 cm.
The inner edge of the frame is a square of side 8 cm.

Work out the area of each piece of card.

..... cm²

(Total for Question 4 is 4 marks)

8.

The diagram shows shape A.
All the measurements are in centimetres.

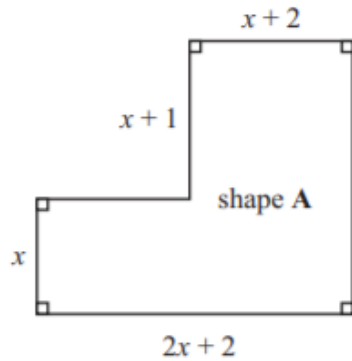


Diagram **NOT**
accurately drawn

- (a) Find an expression in terms of x for the area, in cm^2 , of shape A.
You must simplify your answer.

.....
(4)

Shape B is a rectangle.
Shape B has the same area as shape A.
Shape B has a length of $(3x + 2)$ centimetres.

- (b) Find an expression in terms of x for the width, in centimetres, of shape B.

.....
(1)

(Total for Question 15 is 5 marks)

9.

A pattern is made using four identical rectangular tiles.

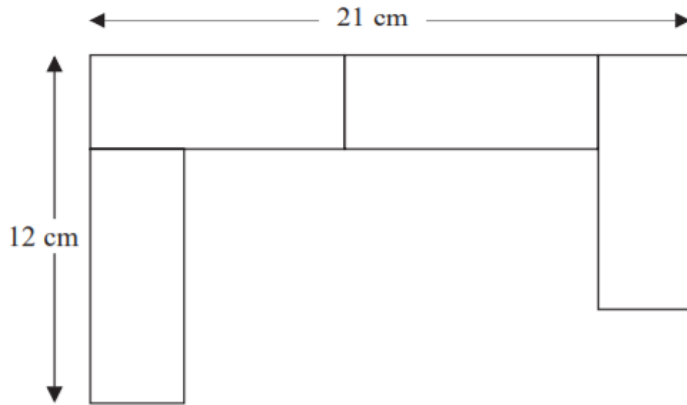


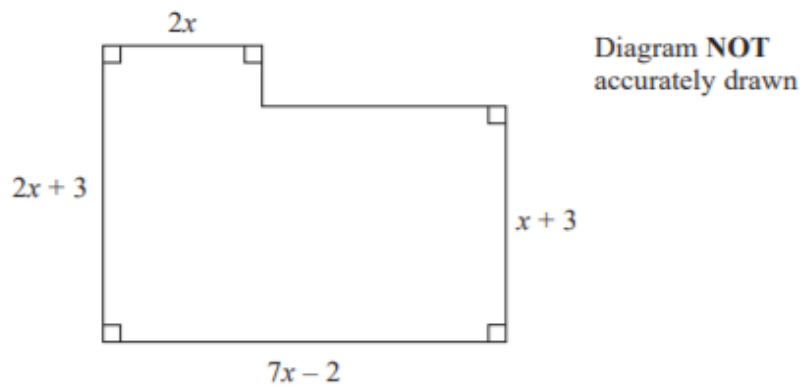
Diagram NOT accurately drawn

Find the total area of the pattern.

..... cm²

(Total for Question 2 is 5 marks)

10.



All the measurements in the diagram are in centimetres.

The area of the shape is $A \text{ cm}^2$.

Find a formula for A in terms of x .

You must write your formula as simply as possible.

(Total for Question 14 is 4 marks)

11.

Here is a rectangle.



Diagram **NOT**
accurately drawn

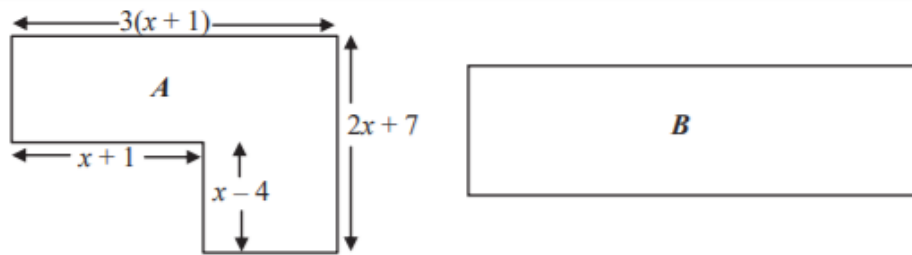
The rectangle has a width of $(2x - 3)$ cm.
It has an area of $(10x^2 - x - 21)$ cm².

Work out the length of the rectangle when $x = 4$

.....cm

(Total for Question 9 is 3 marks)

12.



The diagram shows two shapes.
 In shape *A*, all of the angles are right angles.
 Shape *B* is a rectangle.
 All the measurements are in centimetres.

The area of shape *A* is equal to the area of shape *B*.

Find an expression, in terms of x , for the length and an expression, in terms of x , for the width of shape *B*.

.....
 (Total for Question 12 = 6 marks)