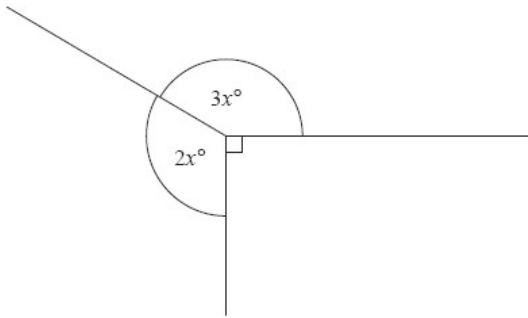


GCSE QUESTIONS

Q1. NON-CALCULATOR

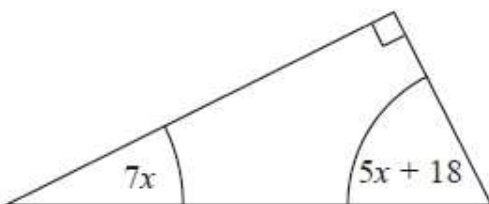


Find the value of x .

.....
(Total for question = 3 marks)

Q2. NON-CALCULATOR

The diagram shows a right-angled triangle.



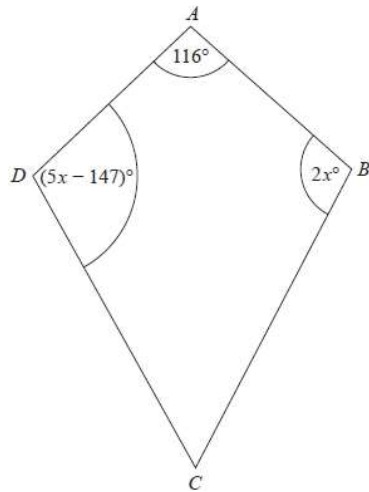
All the angles are in degrees.

Work out the size of the smallest angle of the triangle.

.....°
(Total for question is 3 marks)

Q3. NON-CALCULATOR

$ABCD$ is a kite with $AD = AB$



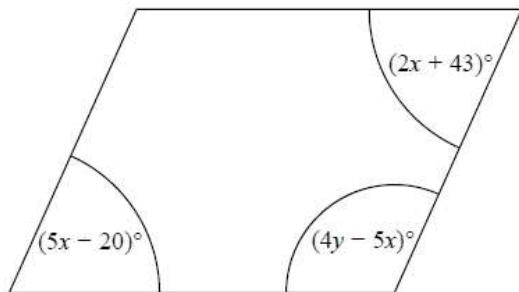
Find the size of the smallest angle of the kite.

..... °

(Total for question = 4 marks)

Q4. NON-CALCULATOR

Here is a parallelogram.



Work out the value of x and the value of y .

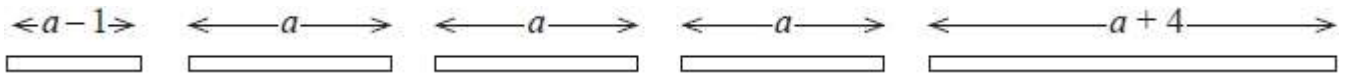
$x =$

$y =$

(Total for question = 5 marks)

Q5. NON-CALCULATOR

Here are five straight rods.



All measurements are in centimetres.

The total length of the five rods is L cm.

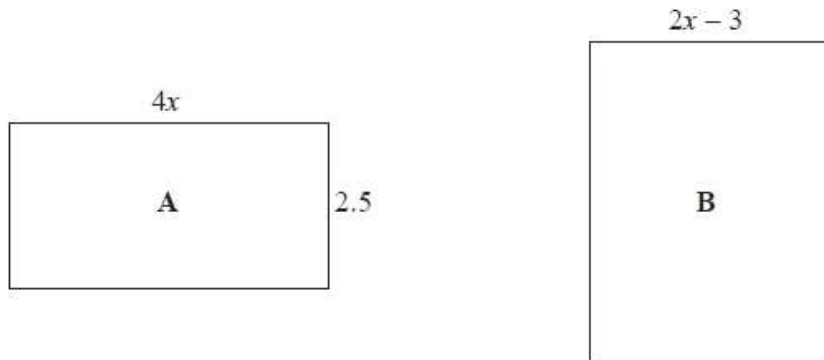
Find a formula for L in terms of a .

Write your formula as simply as possible.

.....
(Total for question = 3 marks)

Q6. NON-CALCULATOR

Here are two rectangles.



All measurements are in centimetres.

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

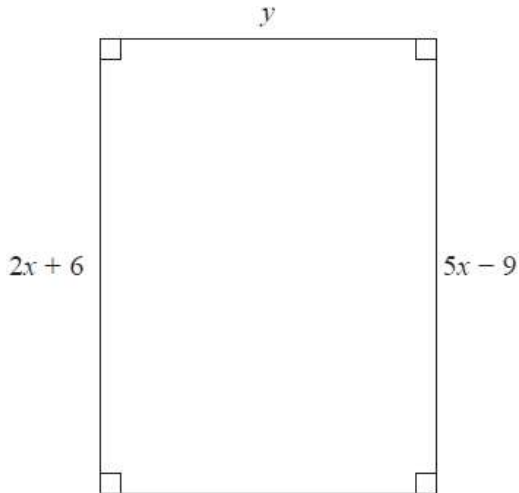
Work out the perimeter of rectangle **B**.

..... cm

(Total for question = 5 marks)

Q7. NON-CALCULATOR

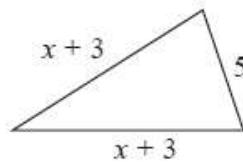
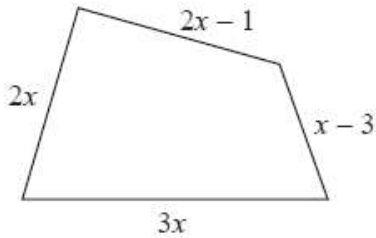
Here is a rectangle.



All measurements are in centimetres.
 The area of the rectangle is 48 cm^2 .
 Show that $y = 3$

(Total for question = 4 marks)

Q8. NON-CALCULATOR



In the diagram all measurements are in centimetres.

The perimeter of the quadrilateral is twice the perimeter of the triangle.

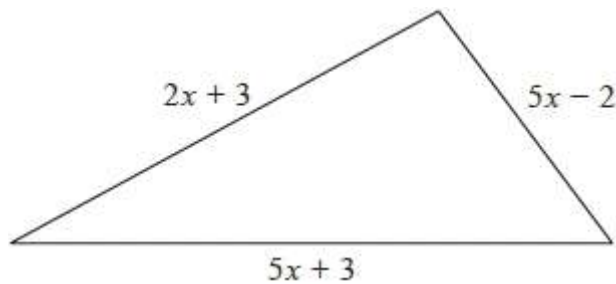
Work out the perimeter of the quadrilateral.

..... cm

(Total for question = 4 marks)

Q9. NON-CALCULATOR

The perimeter of a square has the same length as the perimeter of this triangle.



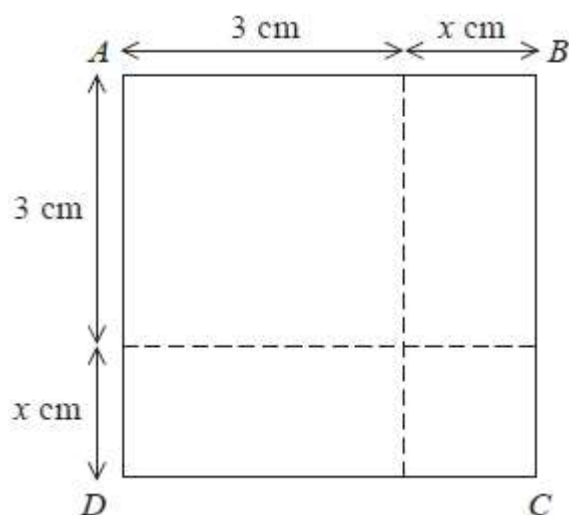
All measurements are in centimetres.

Find an expression, in terms of x , for the length of a side of the square.

Give your answer in its simplest form.

.....
(Total for question = 3 marks)

Q10. NON-CALCULATOR



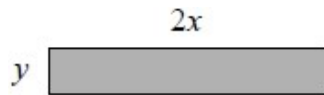
The area of square ABCD is 10 cm^2 .

Show that $x^2 + 6x = 1$

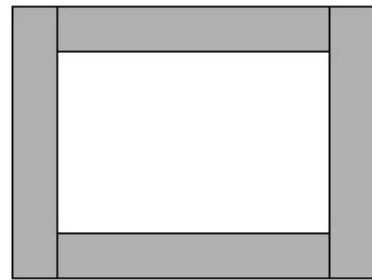
(Total for question = 3 marks)

Q11. NON-CALCULATOR

Here is a rectangle made of card.



The measurements in the diagram are in centimetres.



Lily fits four of these rectangles together to make a frame.

The perimeter of the inside of the frame is P cm.

(a) Show that $P = 8x - 4y$

(2)

Magda says,

"When x and y are whole numbers, P is always a multiple of 4."

(b) Is Magda correct?

You must give a reason for your answer.

(2)

(Total for question = 4 marks)

Q12. NON-CALCULATOR

Kiaria is 7 years older than Jay.

Martha is twice as old as Kiaria.

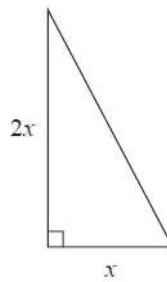
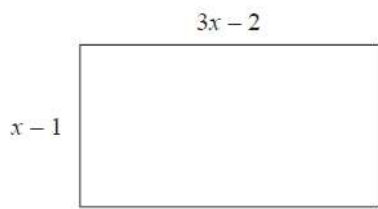
The sum of their three ages is 77

Find the ratio of Jay's age to Kiaria's age to Martha's age.

.....
(Total for question = 4 marks)

Q13. NON-CALCULATOR

Here is a rectangle and a right-angled triangle.

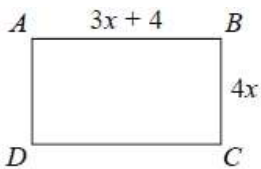


All measurements are in centimetres.
The area of the rectangle is greater than the area of the triangle.

Find the set of possible values of x .

.....
(Total for question = 5 marks)

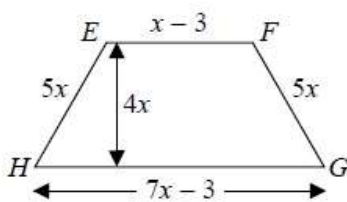
Q14. CALCULATOR ALLOWED



$ABCD$ is a rectangle. $EFGH$ is a trapezium.

All measurements are in centimetres. The perimeters of these two shapes are the same.

Work out the area of the rectangle.



..... cm^2
(Total for question = 5 marks)

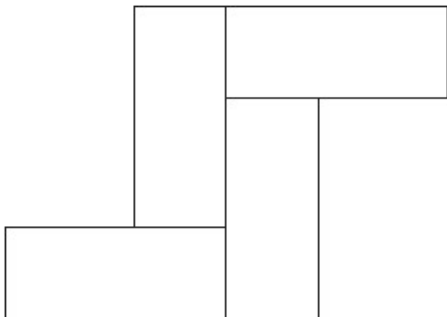
Q15. CALCULATOR ALLOWED

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.

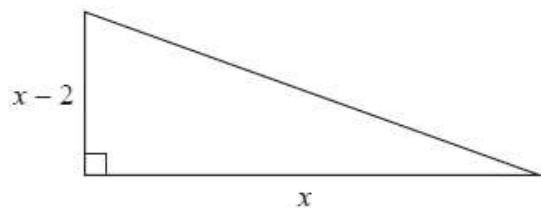
Work out the area of the 8-sided shape.

..... cm²

(Total for question = 5 marks)

Q16. CALCULATOR ALLOWED

Here is a right-angled triangle.



All measurements are in centimetres.

The area of the triangle is 2.5 cm².

Find the perimeter of the triangle.

Give your answer correct to 3 significant figures.

You must show all of your working.

..... cm

(Total for question is 6 marks)

Q17. CALCULATOR ALLOWED

The length of a rectangle is the same as the length of each side of a square.

The length of the rectangle is 4 cm more than 3 times the width of the rectangle.

The area of the square is 66 cm^2 more than the area of the rectangle.

Find the length and the width of the rectangle.

You must show all your working.

.....
(Total for question = 6 marks)