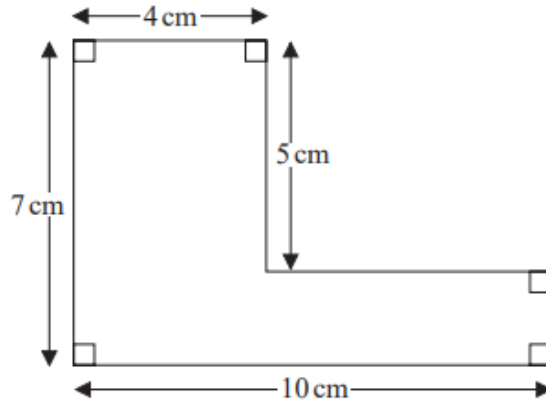


AREA AND PERIMETER

Pearson Edexcel - Monday 8 June 2020 - Paper 3 (Calculator) Foundation Tier

1.

13



Work out the perimeter of this shape.

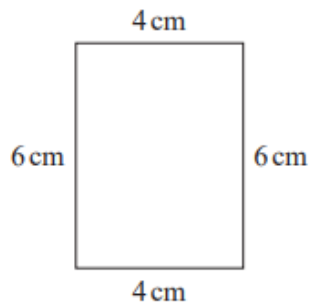
..... cm

(Total for Question 13 is 2 marks)

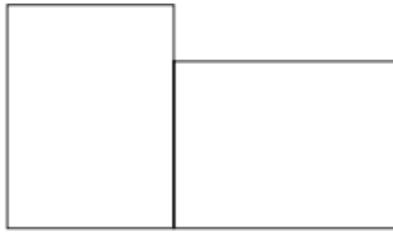
Pearson Edexcel - Tuesday 11 June 2019 - Paper 3 (Calculator) Foundation Tier

2.

16 Here is a rectangle.



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



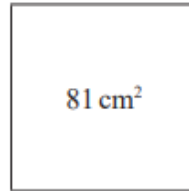
Work out the perimeter of this 6-sided shape.

..... cm

(Total for Question 16 is 3 marks)

3.

13 A square has an area of 81 cm^2

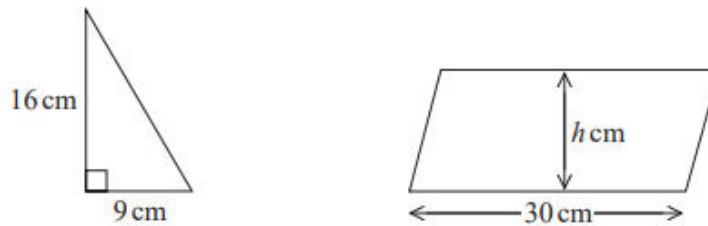


(a) Find the perimeter of the square.

..... 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 .

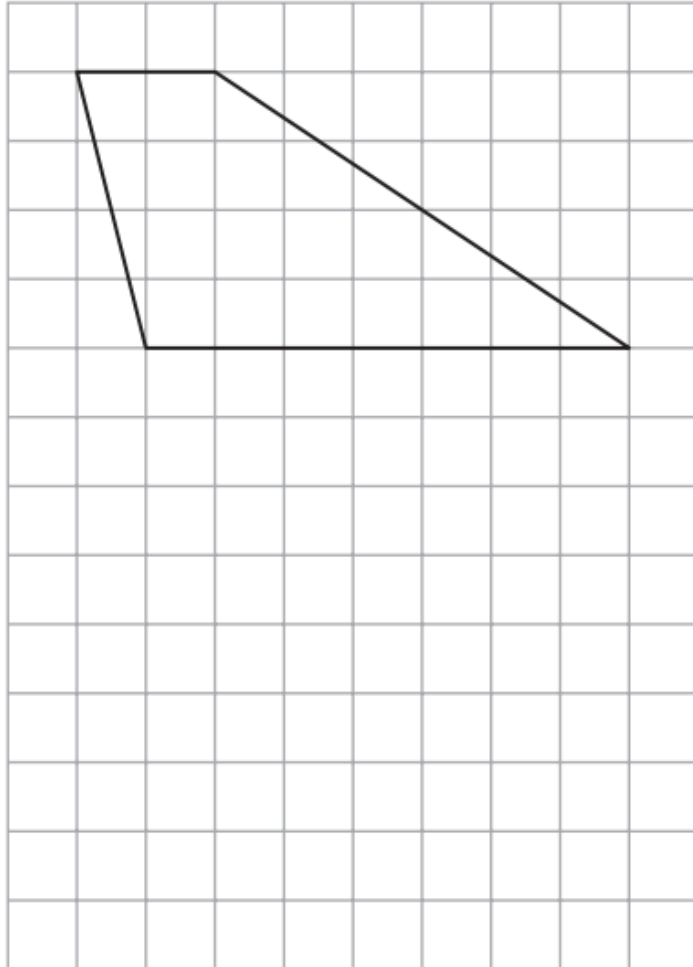
$h =$

(3)

(Total for Question 13 is 5 marks)

4.

21 Here is a trapezium drawn on a centimetre grid.



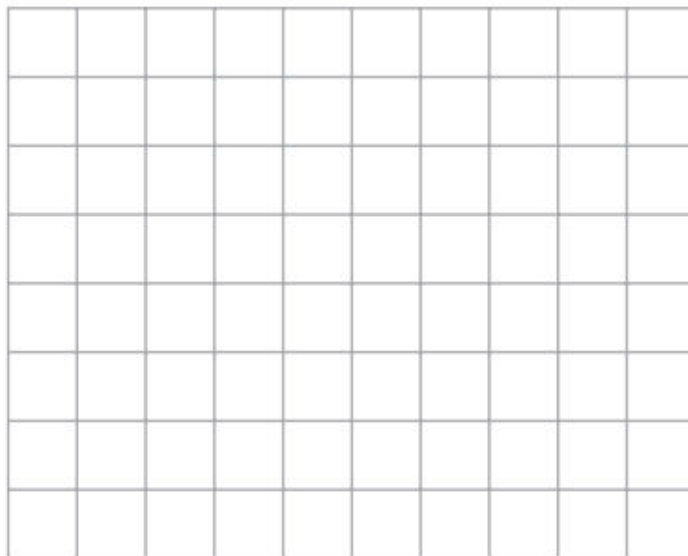
On the grid, draw a triangle equal in area to this trapezium.

(Total for Question 21 is 2 marks)

5.

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

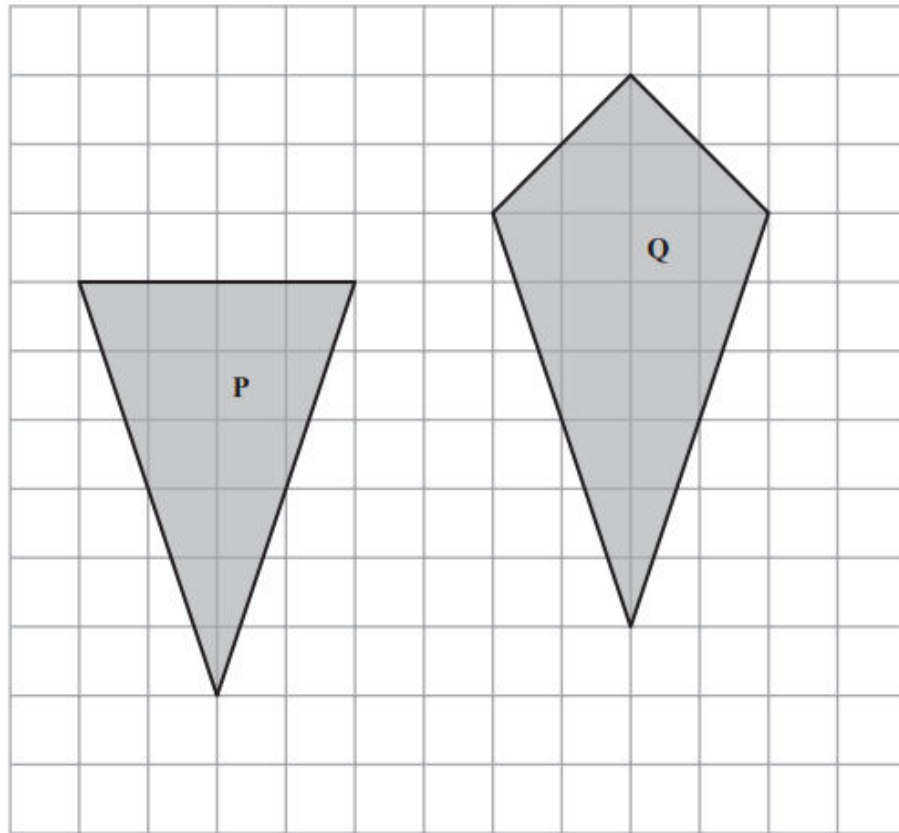
Draw the rectangle on the centimetre grid.



(Total for Question 8 is 2 marks)

6.

10 The diagram shows two shapes drawn on a centimetre grid.



(a) Find the area of shape P.

.....
(2)

(b) Write down the mathematical name of quadrilateral Q.

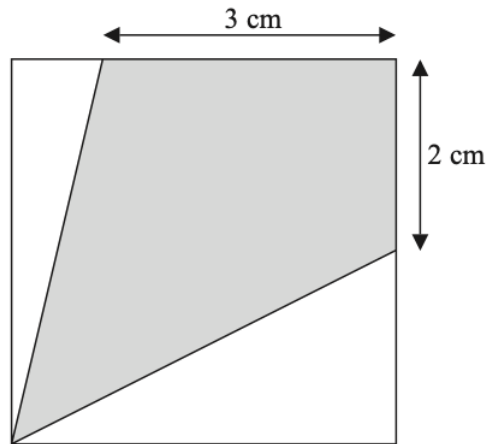
.....
(1)

(Total for Question 10 is 3 marks)

Pearson Edexcel – Specimen 2 - Paper 1 (Non-Calculator) Foundation Tier

7.

20 The diagram shows a square with perimeter 16 cm.



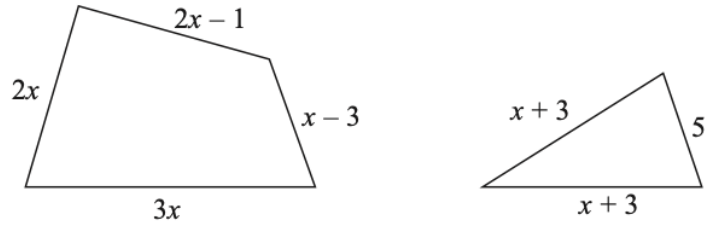
Work out the proportion of the area inside the square that is shaded.

(Total for Question 20 is 5 marks)

Pearson Edexcel – Specimen 2 - Paper 3 (Calculator) Foundation Tier

8.

30



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.

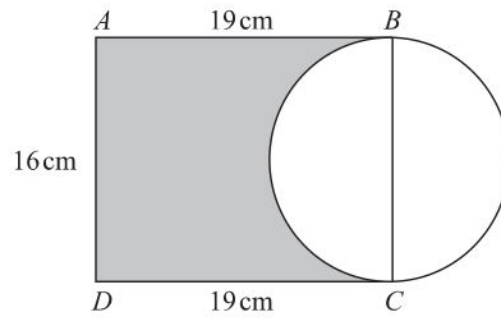
..... cm

(Total for Question 30 is 4 marks)

Pearson Edexcel – Specimen 1 - Paper 2 (Calculator) Foundation Tier

9.

27 Here is a diagram showing a rectangle, $ABCD$, and a circle.



BC is a diameter of the circle.

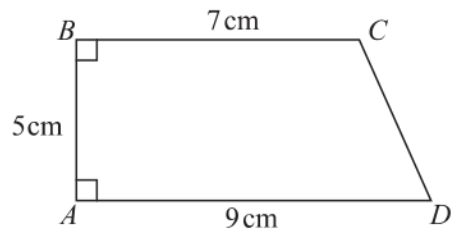
Calculate the percentage of the area of the rectangle that is shaded.
Give your answer correct to 1 decimal place.

.....%

(Total for Question 27 is 4 marks)

10.

28 $ABCD$ is a trapezium.



A square has the same perimeter as this trapezium.

Work out the area of the square.

Give your answer correct to 3 significant figures.

..... cm^2

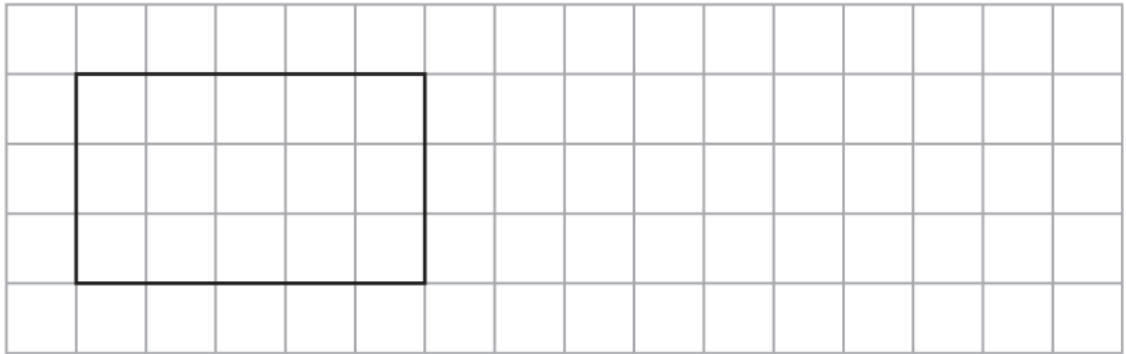
(Total for Question 28 is 5 marks)

Pearson Edexcel – Specimen 1 - Paper 3 (Calculator) Foundation Tier

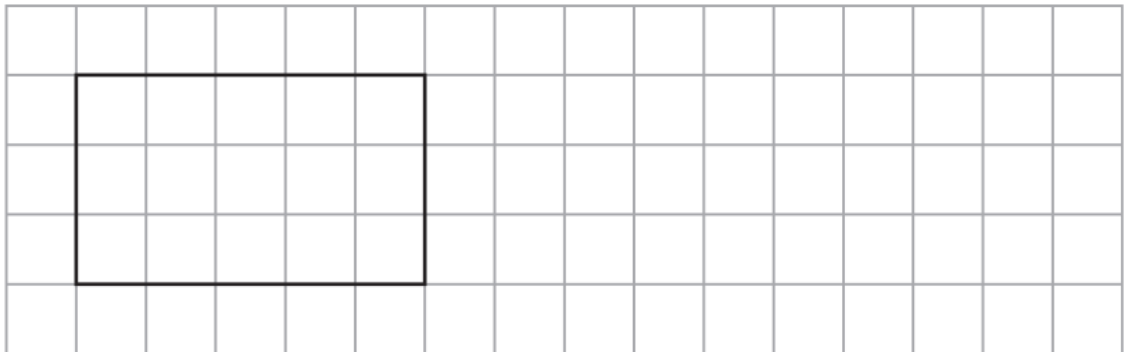
11.

16 Give an example to show that when a piece is cut off a rectangle the perimeter of the new shape

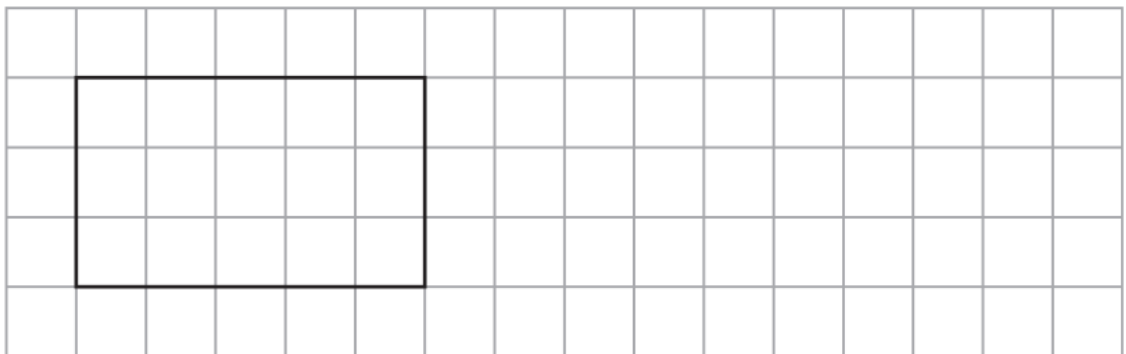
(i) is less than the perimeter of the rectangle,



(ii) is the same as the perimeter of the rectangle,



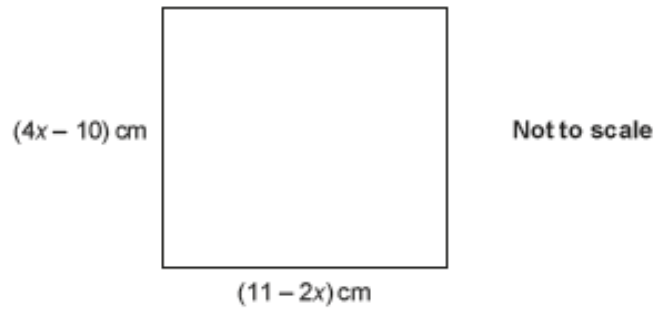
(iii) is greater than the perimeter of the rectangle.



(Total for Question 16 is 3 marks)

12.

16 The diagram shows a square.

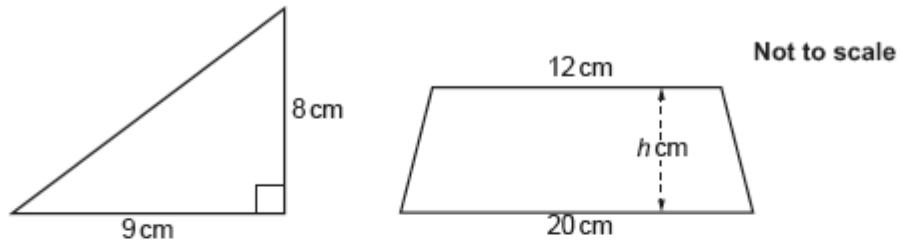


By setting up and solving an equation, show that the perimeter of the square is numerically equal to the area of the square.

OCR November 09 November 2020- Morning (Calculator) Foundation Tier

13.

17 The area of the triangle is equal to the area of the trapezium.



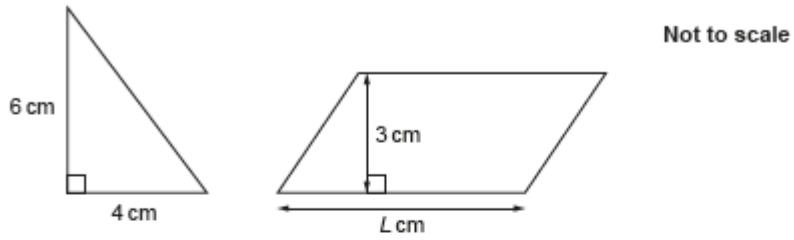
Calculate the height, h cm, of the trapezium.

$h = \dots\dots\dots$ cm [5]

OCR Tuesday 5 November 2019 – Morning (Calculator) Foundation Tier

14.

10 The area of the parallelogram is four times the area of the triangle.



Calculate the length, L , of the parallelogram.

..... cm [5]

OCR Tuesday 5 November 2019 – Morning (Calculator) Foundation Tier

15.

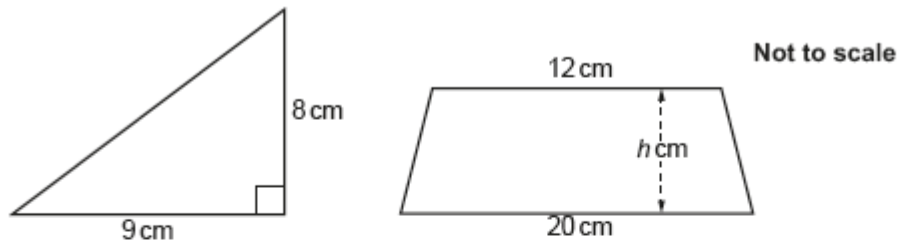
- 15** A rectangle is three times as long as it is wide.
It has a perimeter of 44 cm.

Find the length of the rectangle.

..... cm [4]

16.

17 The area of the triangle is equal to the area of the trapezium.



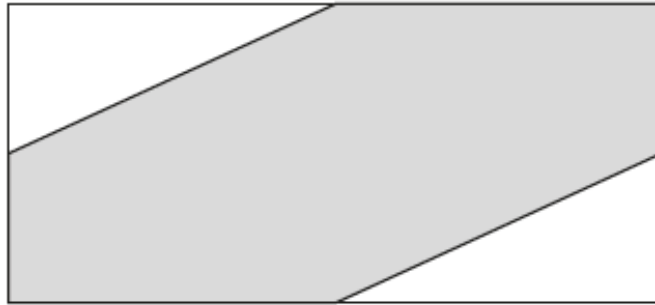
Calculate the height, h cm, of the trapezium.

$h = \dots\dots\dots$ cm [5]

OCR Monday 11 November 2019 – Afternoon (Calculator) Foundation Tier

17.

13 The midpoints of the sides of a rectangle are joined by straight lines as shown.



Work out the percentage of the rectangle that is shaded.

..... % [4]

OCR Monday 11 November 2019 – Afternoon (Calculator) Foundation Tier

18.

22 The diagram shows two rectangles, A and B.



Rectangle A has a width of 25 cm and a height of 12 cm.
The width of rectangle B is three times the height of rectangle B.

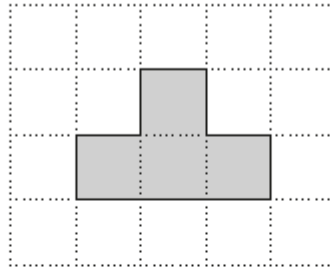
The area of rectangle A is equal to the area of rectangle B.

Find the perimeter of rectangle B.

..... cm [5]

19.

5 A shape is drawn on a one-centimetre grid.



(a) Find the perimeter of the shape.

(a) cm [1]

(b) How many lines of symmetry does the shape have?

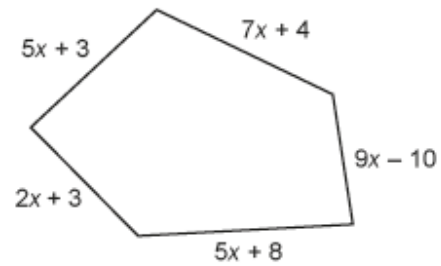
(b) [1]

OCR Tuesday 6 November 2018 – Morning (Calculator) Foundation Tier

20.

- 16 The perimeter of the pentagon is equal to the perimeter of the square.

Not to scale



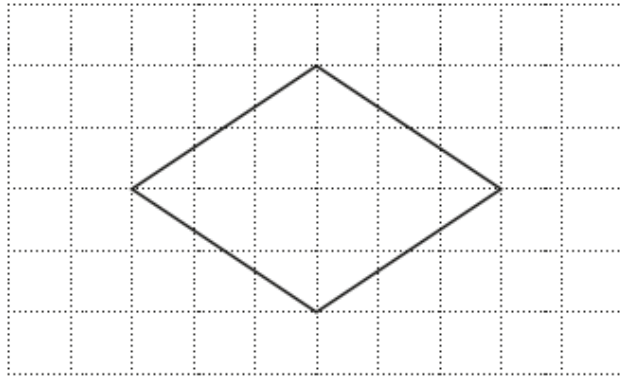
Find an expression for the length of one side of the square.
Give your answer in terms of x in its simplest form.

..... [4]

OCR Thursday 7 June 2018 – Morning (Non Calculator) Foundation Tier

21.

5 A shape is drawn on a one-centimetre grid.



(a) Ring the mathematical name of the shape.

Pentagon

Square

Octagon

Rhombus

[1]

(b) How many lines of symmetry does the shape have?

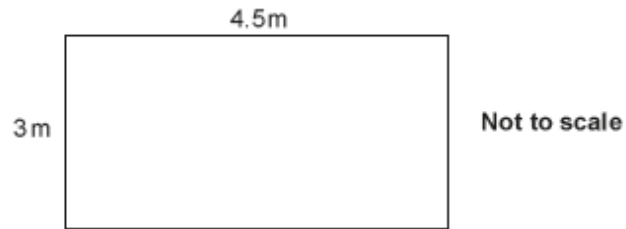
(b) [1]

(c) Work out the area of the shape.

(c) cm² [2]

22.

15 Here is the floor plan of a rectangular room.



Tim buys carpet tiles for this room.

Each tile is a square measuring 50 cm by 50 cm.

The tiles are only sold in packs of ten.

Each pack costs £20.

Tim pays for fitting at a rate of £7.50 per square metre, with any fraction of a square metre rounded up.

Work out the **total** cost of the tiles and fitting.

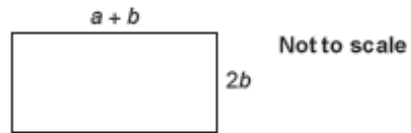
£ [6]

OCR Tuesday 12 June 2018– Morning (Calculator) Foundation Tier

23.

13 In this question, assume all dimensions are in centimetres.

Jess and Pete have many rectangular tiles.
Each tile has length $a + b$ and width $2b$.



(a) Jess joins three tiles together to make a larger rectangle, as shown.



(i) Write an expression for the perimeter of her rectangle.
Give your answer in its simplest form.

(a)(i) [2]

(ii) An expression for the area of her rectangle is $6ab + 6b^2$.

Factorise this expression fully.

(ii) [2]

(b) Pete joins some tiles together to make a different rectangle.
The area of his rectangle is $8ab + 8b^2$.

Draw a possible arrangement of tiles for Pete's rectangle.
Write down expressions for the length and for the width of the rectangle.

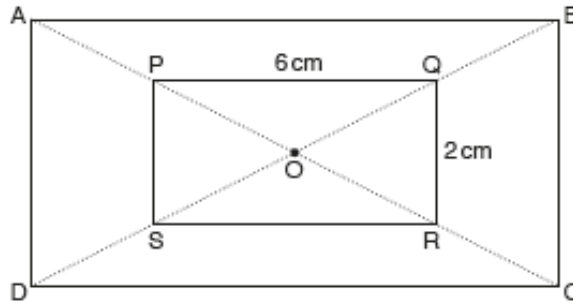
length =

width = [5]

OCR Monday 6 November 2017– Morning (Calculator) Foundation Tier

24.

- 13 ABCD and PQRS are rectangles.
O is the centre of both rectangles.



Not to scale

AC is a straight line passing through P, O and R.
BD is a straight line passing through Q, O and S.

PQ = 6 cm and QR = 2 cm.
The perimeter of rectangle ABCD is 40 cm.

Work out the length and width of rectangle ABCD.

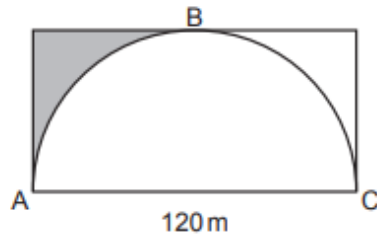
length = cm

width = cm [3]

25.

- 21 The diagram shows a semi-circle inside a rectangle of length 120 m. The semi-circle touches the rectangle at A, B and C.

Not to scale

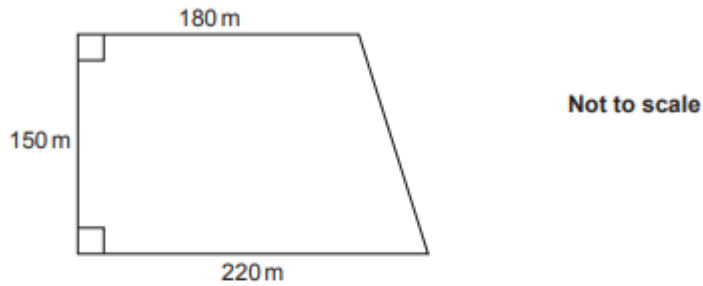


Calculate the **perimeter** of the shaded region.
Give your answer correct to 3 significant figures.

..... m [5]

26.

- 12 A farmer has a field that is in the shape of a trapezium. He measures the field so that he can work out the area. He puts his measurements on this diagram of the field.



- (a) The farmer has rounded his measurements to two significant figures.

Give a reason why he may have done this.

.....
..... [1]

- (b) The field produces 6400 kilograms of wheat per hectare. One hectare is $10\,000\text{m}^2$.

Work out how many kilograms of wheat the field produces.

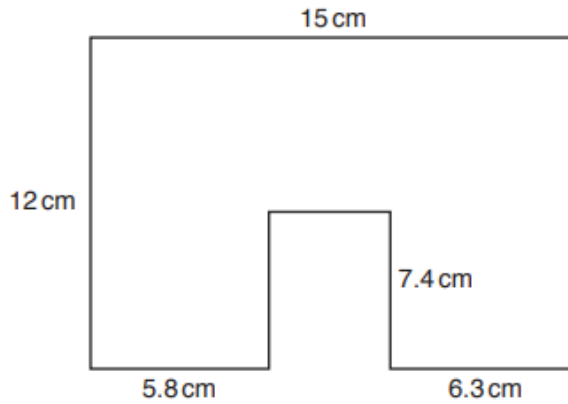
(b) kg [5]

OCR Tuesday 13 June 2017 – Morning (Calculator) Foundation Tier

27.

- 12 The shape below is formed from a rectangle measuring 12 cm by 15 cm from which a rectangle of length 7.4 cm has been removed.

Not to scale



Work out the perimeter of the shape.

.....cm [3]

OCR Sample Question Paper 2 – Morning/Afternoon (Non - Calculator) Foundation Tier

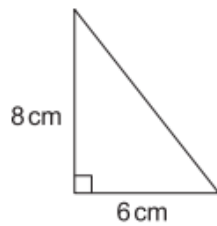
28.

- 6 (a) A square has an area of 100 cm^2 .

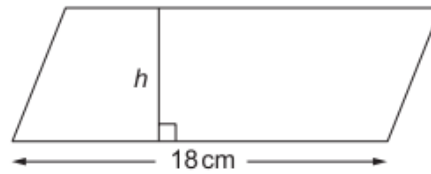
Find its perimeter.

(a) cm [2]

- (b) The area of the parallelogram is **three** times the area of the triangle.



Not to scale



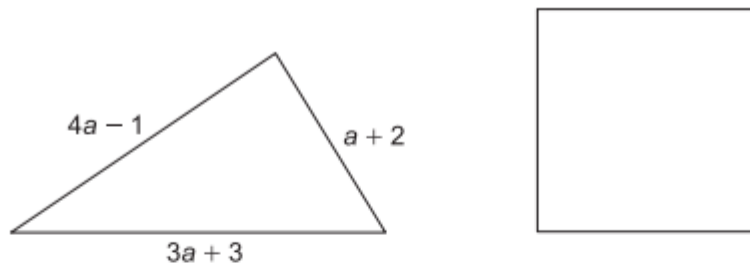
Show that the perpendicular height h of the parallelogram is 4 cm.

[4]

OCR Sample Question Paper 2 – Morning/Afternoon (Non - Calculator) Foundation Tier

29.

19 The perimeter of the triangle is the same length as the perimeter of the square.

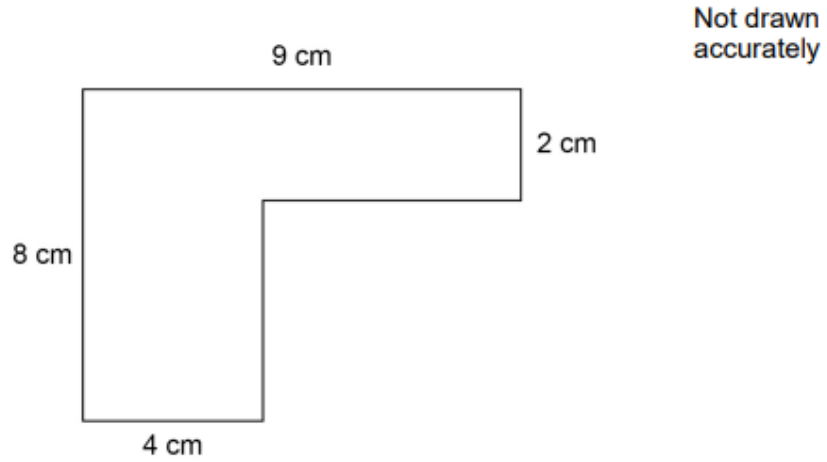


Find an expression for the length of one side of the square in terms of a .
Give your answer in its simplest form.

..... [4]

30.

16 (a) Here is a shape made from rectangles.

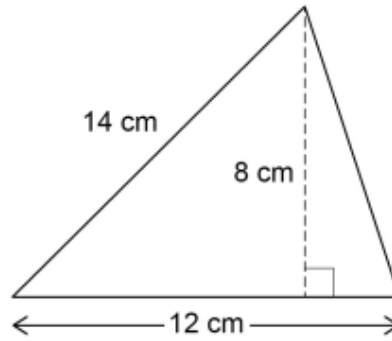


Work out the area.

[3 marks]

Answer _____ cm^2

16 (b) Zak wants to work out the area of this triangle.



Not drawn accurately

Here is his working.

$$12 \times 8 = 96 \text{ cm}^2$$

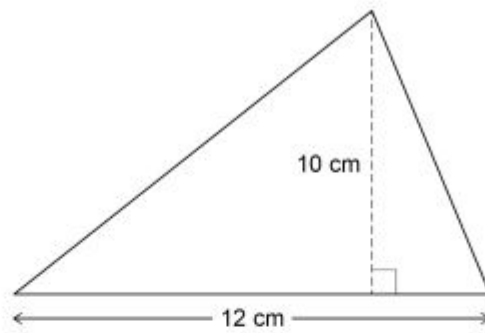
What is wrong with his method?

[1 mark]

AQA Thursday 6 June 2019 – Morning (Calculator) Foundation Tier

31.

- 18 A force of 180 newtons (N) is applied to the surface of this triangle.



Not drawn accurately

Work out the pressure.

Use $\text{pressure} = \frac{\text{force}}{\text{area}}$

[3 marks]

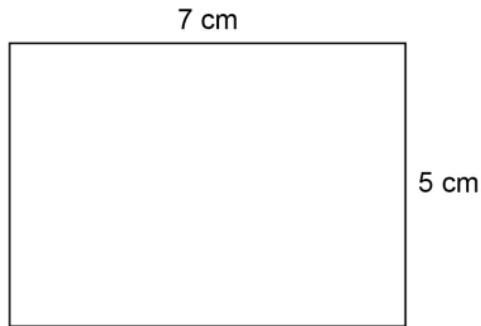
Answer _____ N/cm²

AQA Thursday 8 November 2018 – Morning (Calculator) Foundation Tier

32.

1 Here is a rectangle.

Not drawn accurately



Work out the perimeter.
Circle your answer.

[1 mark]

12 cm

24 cm

35 cm

70 cm

AQA Thursday 8 November 2018 – Morning (Calculator) Foundation Tier

33.

10 Each side of a square is made 3 times as long.

What happens to the perimeter?

Circle your answer.

[1 mark]

× 3

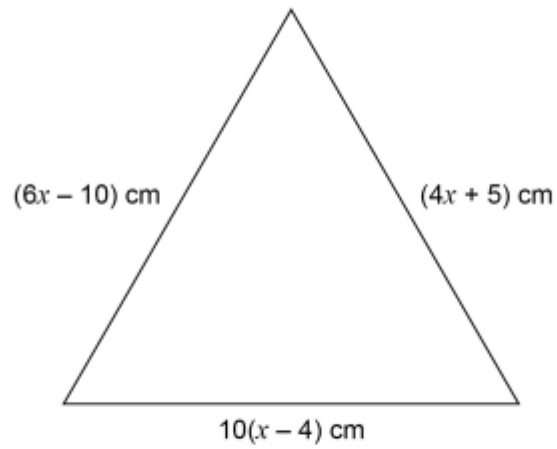
× 6

× 9

× 12

34.

25 This triangle is equilateral.



Not drawn
accurately

Is the perimeter of the triangle greater than one metre?

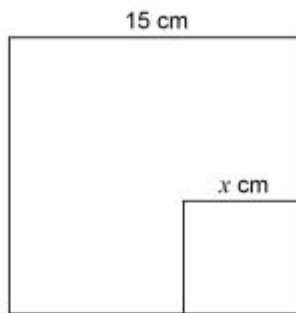
You **must** show your working.

[5 marks]

AQA Monday 12 November 2018 – Morning (Calculator) Foundation Tier

35.

- 13 A small square has length x cm
A large square has length 15 cm



Not drawn accurately

The area of the small square is $\frac{1}{9}$ of the area of the large square.

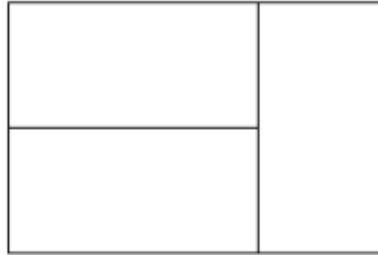
Work out the value of x .

[3 marks]

Answer _____

36.

- 31 A large rectangle is made by joining three identical small rectangles as shown.



Not drawn accurately

The perimeter of one small rectangle is 15 cm

Work out the perimeter of the large rectangle.

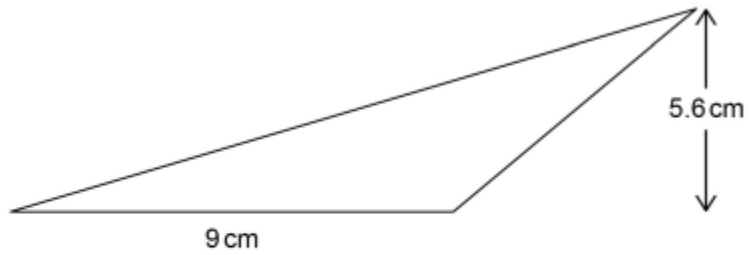
[4 marks]

Answer _____ cm

37.

14 A triangle has base 9 cm and perpendicular height 5.6 cm

Not drawn accurately



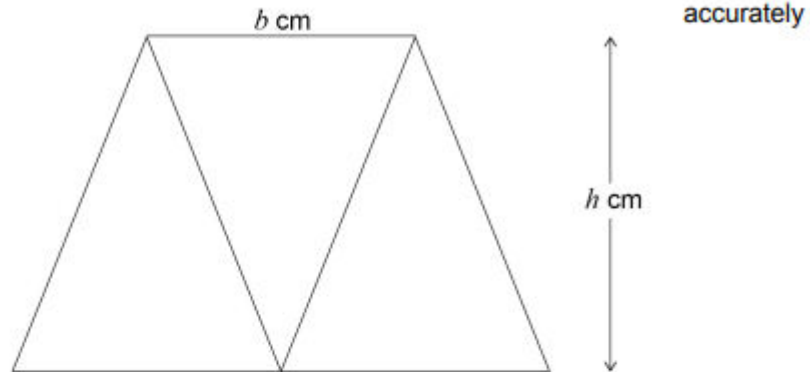
Work out the area of the triangle.

[2 marks]

Answer _____ cm^2

38.

- 26 Three identical isosceles triangles are joined to make this trapezium.
Each triangle has base b cm and perpendicular height h cm



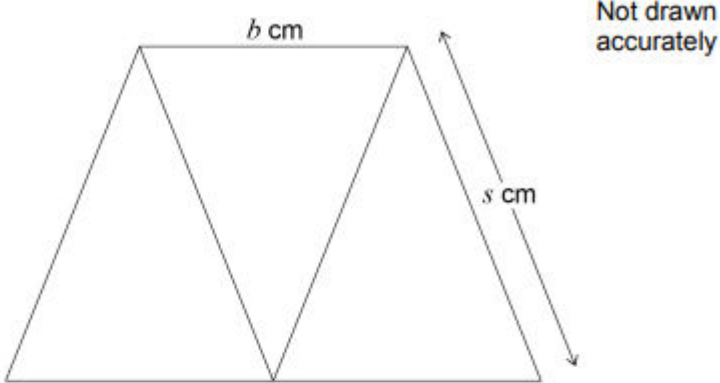
- 26 (a) Work out an expression, in terms of b and h , for the area of the trapezium.

Give your answer in its simplest form.

[2 marks]

Answer _____ cm^2

26 (b) This diagram shows the same trapezium.



$b : s = 2 : 3$

Work out an expression, in terms of b , for the perimeter of the trapezium.

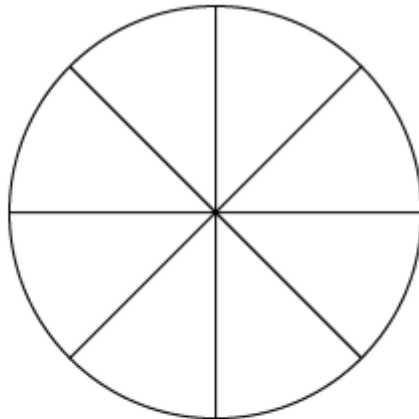
[2 marks]

Answer _____ cm

AQA Monday 6 November 2017 – Morning (Calculator) Foundation Tier

39.

16 A wheel is made of a circular rim and 8 spokes as shown.



Not drawn
accurately

The length of each spoke is 37 cm

Work out the **total** length of the rim and spokes.

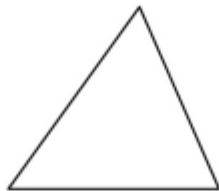
[3 marks]

Answer _____ cm

AQA Thursday 25 May 2017– Morning (Non-Calculator) Foundation Tier

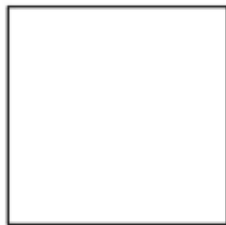
40.

- 11 A triangle has perimeter 32 cm



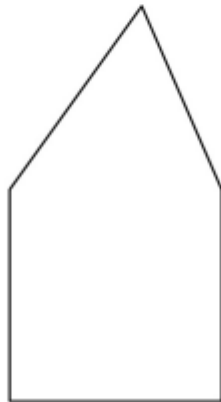
Not drawn accurately

- A square has perimeter 40 cm



- Two sides of the shapes are put together to make a pentagon.

Not drawn accurately



Work out the perimeter of the pentagon.

[4 marks]

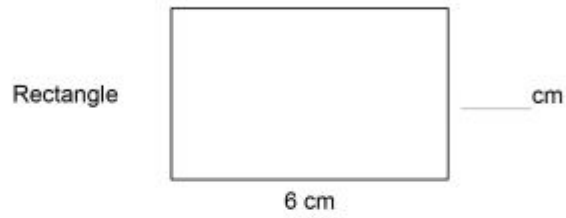
Answer _____ cm

AQA Tuesday 13 June 2017 Morning– Morning (Calculator) Foundation Tier

41.

- 10 Each shape below has an area of 24 cm^2
Complete the missing lengths.

[3 marks]



Not drawn accurately

