IGCSE · Cambridge (CIE) · Maths

42 mins 13 questions

Non-Calculator Questions

Area & Perimeter

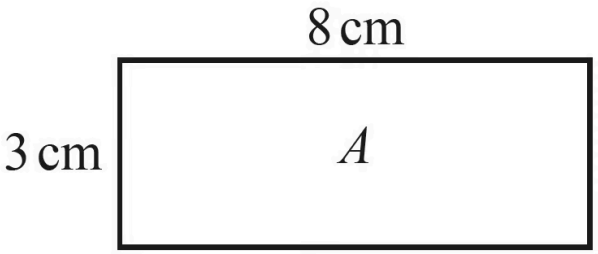
Perimeter / Area / Adding & Subtracting Areas / Problem Solving with Areas

Medium (4 questions)	/13
Hard (4 questions)	/7
Very Hard (5 questions)	/22
Total Marks	**/42**

Scan here to return to the course
or visit savemyexams.com

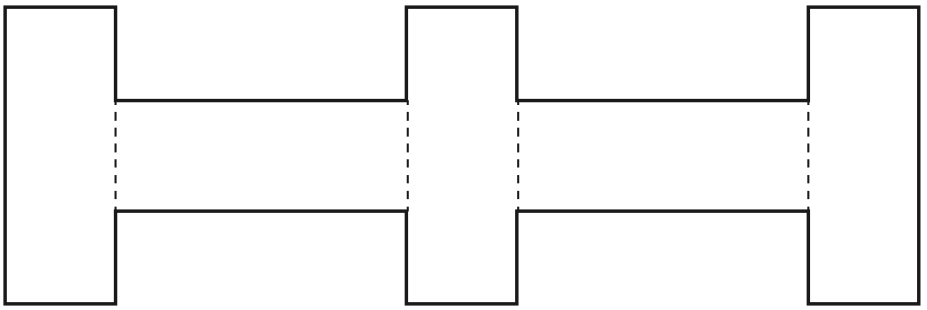
Medium Questions

1 Rectangle A measures 3 cm by 8 cm.



NOT TO SCALE

Five rectangles congruent to A are joined to make a shape.



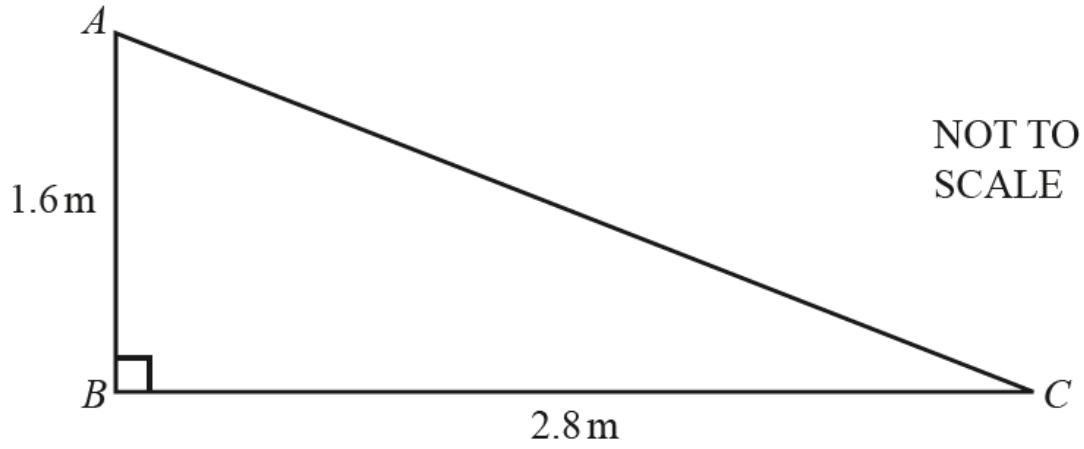
NOT TO SCALE

Work out the perimeter of this shape.

..... cm

(2 marks)

2

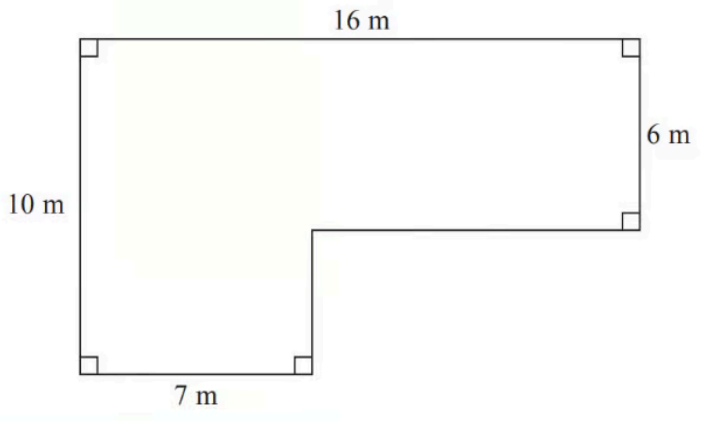


Find the area of triangle *ABC*.

..... m^2

(3 marks)

3 The diagram shows the plan of a small field.



Kevin is going to keep some pigs in the field.
Each pig needs an area of 36 square metres.

Work out the greatest number of pigs Kevin can keep in the field.

(4 marks)

4 The diagram shows a path around a pond.

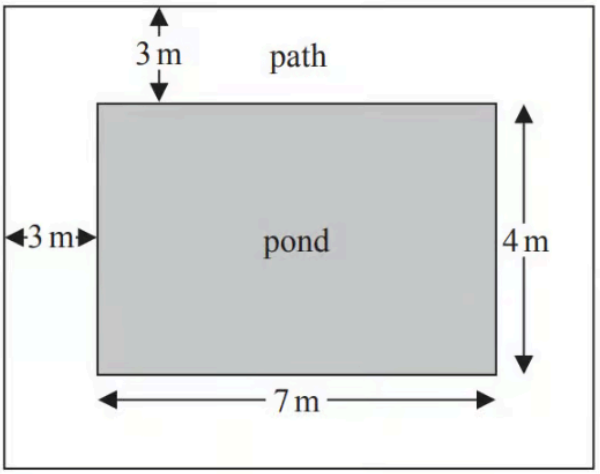


Diagram **NOT** accurately drawn

The pond is in the shape of a rectangle with length 7m and width 4m.
The path is 3m wide.

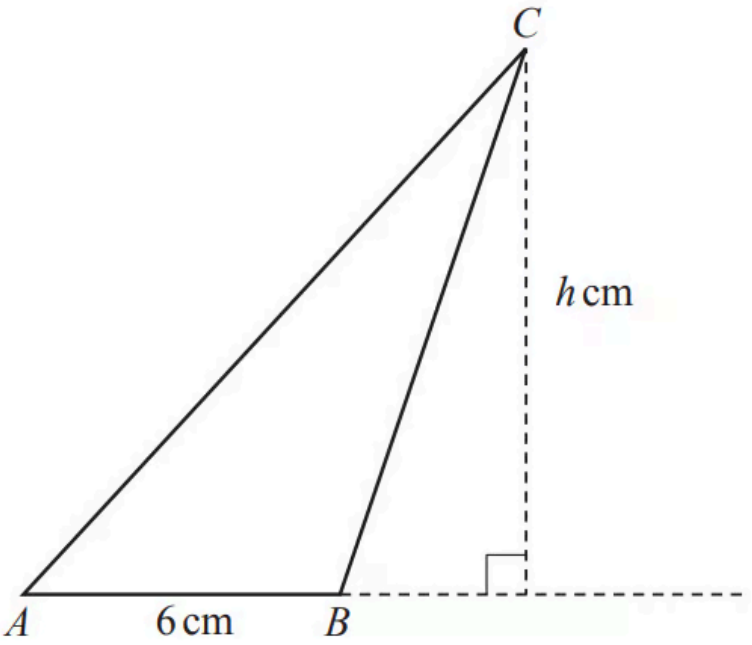
Ali is going to cover the path with gravel. One bag of gravel will cover 10 m^2 of the path.

How many bags of gravel does Ali need to buy?
You must show your working.

(4 marks)

Hard Questions

1



NOT TO SCALE

The area of triangle ABC is $27\ \text{cm}^2$ and $AB = 6\text{cm}$.
Calculate the value of h.

$h =$ .....

(2 marks)

2 An equilateral triangle has sides of length 15 cm, correct to the nearest centimetre.

Calculate the upper bound of the perimeter of this triangle.

..... cm

(1 mark)

3 An equilateral triangle has side length 12 cm, correct to the nearest centimetre.

Find the lower bound and the upper bound of the perimeter of the triangle.

Lower bound = ... cm
Upper bound = ... cm

(2 marks)

4 The length of the side of a square is 12 cm, correct to the nearest centimetre.

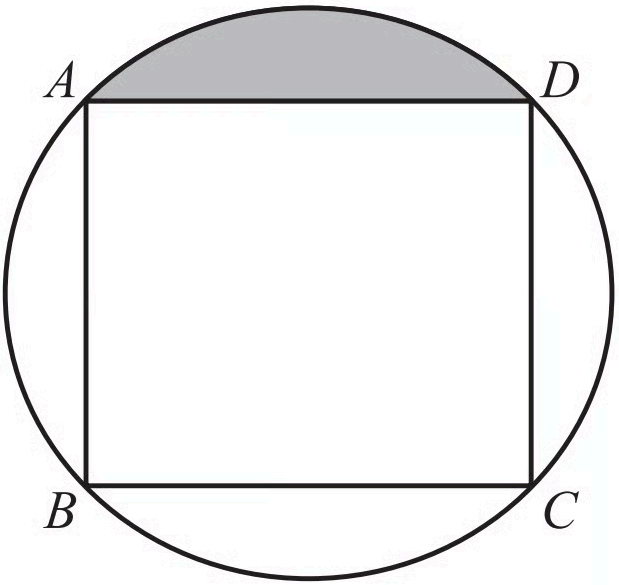
Calculate the upper bound for the perimeter of the square.

..... cm

(2 marks)

Very Hard Questions

1



NOT TO SCALE

The vertices of a square *ABCD* lie on the circumference of a circle, radius 8 cm.

Calculate the area of the square.

..... cm^2

(2 marks)

2

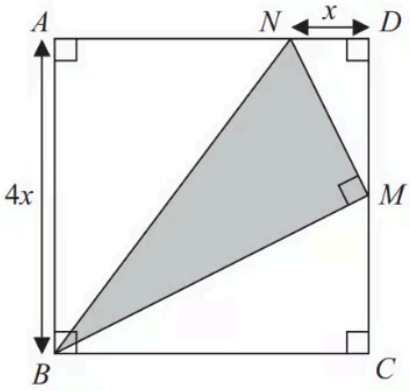


Diagram **NOT** accurately drawn

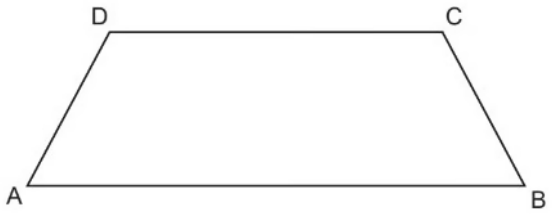
$ABCD$ is a square with a side length of
M is the midpoint of DC.
N is the point on AD where $ND = x$

BMN is a right-angled triangle.

Find an expression, in terms of x, for the area of triangle BMN.
Give your expression in its simplest form.

(4 marks)

3 ABCD is a trapezium.



Not to scale

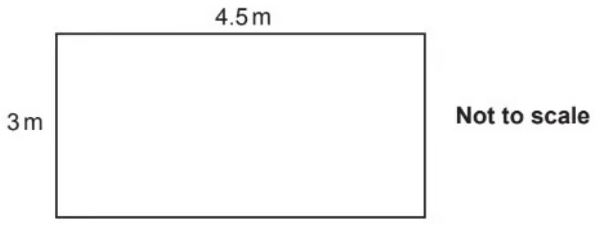
The perimeter of the trapezium is 56 cm. The ratio AD : AB : DC : BC = 5 : 12 : 6 : 5.

Calculate the area of the trapezium.
Show your working.

.....cm^2

(7 marks)

4 Here is the floor plan of a rectangular room.



Tim buys carpet tiles for this room.

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

5 The lengths of the sides of two squares are integers, when measured in cm.
The difference between the areas of the two squares is 36cm^2.

Find the lengths of the sides of the two squares.

..... cm

..... cm

(3 marks)