IGCSE · Cambridge (CIE) · Maths

32 mins 12 questions

Calculator Questions

Area & Perimeter

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

Medium (4 questions)	/7
Hard (4 questions)	/10
Very Hard (4 questions)	/15
Total Marks	**/32**

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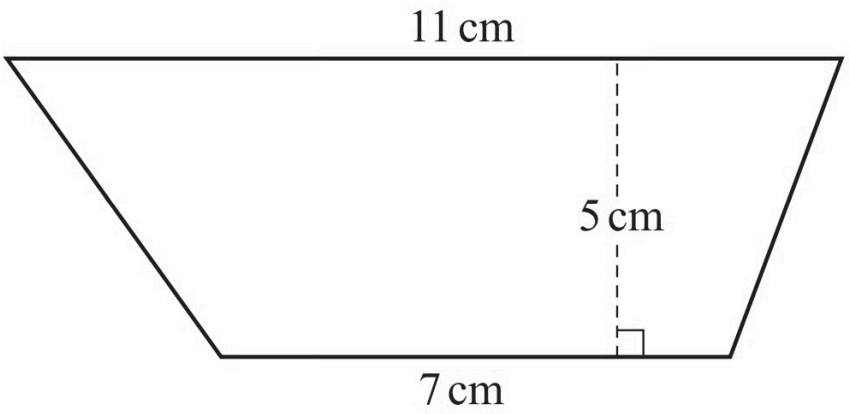
Medium Questions

1



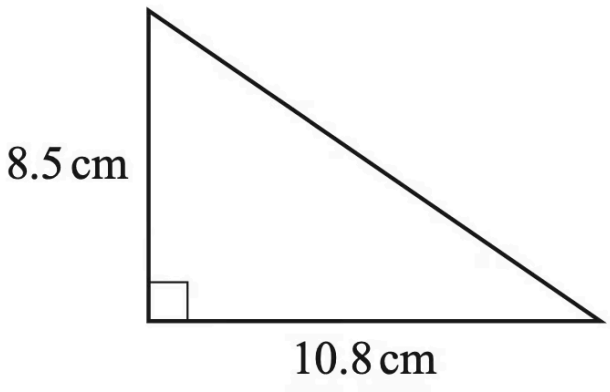
NOT TO SCALE

Calculate the area of the trapezium.

..... cm^2

(2 marks)

2



NOT TO SCALE

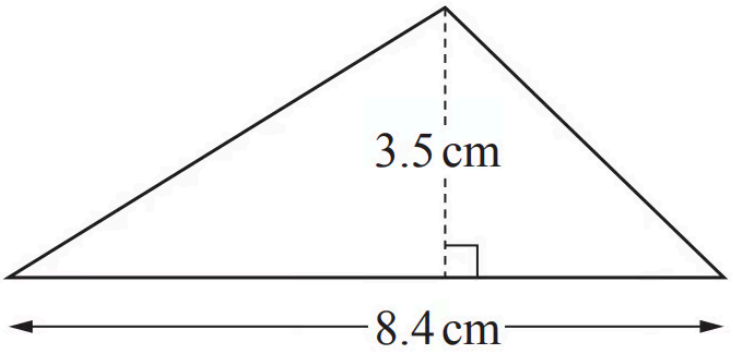
The diagram shows a right-angled triangle.

Calculate the area.

..... cm^2

(2 marks)

3



NOT TO SCALE

Calculate the area of this triangle.

..... cm^2

(2 marks)

4 Tom is tiling a floor.

The floor is a rectangle with length 600 cm and width 240 cm
Each tile is a square with side 40 cm

Tom uses this method to work out the number of tiles he needs.

Number of tiles that will fit along the length = 600 ÷ 40
= 15
Number of tiles that will fit along the width = 240 ÷ 40
= 6
Total number of tiles needed = 15 + 6
= 21

Give a reason why Tom's method is wrong.

(1 mark)

Hard Questions

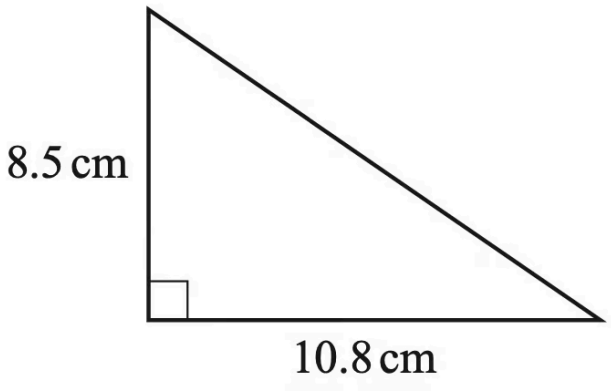
1 A rectangle measures 8.5 cm by 10.7 cm, both correct to 1 decimal place.

Calculate the upper bound of the perimeter of the rectangle.

..... cm

(3 marks)

2



NOT TO SCALE

The diagram shows a right-angled triangle.

Calculate the perimeter.

..... cm

(3 marks)

3 The sides of a square are 15.1 cm, correct to 1 decimal place.

Find the upper bound of the area of the square.

..... cm^2

(2 marks)

4 The area of a square is 42.5 cm^2, correct to the nearest 0.5 cm^2.

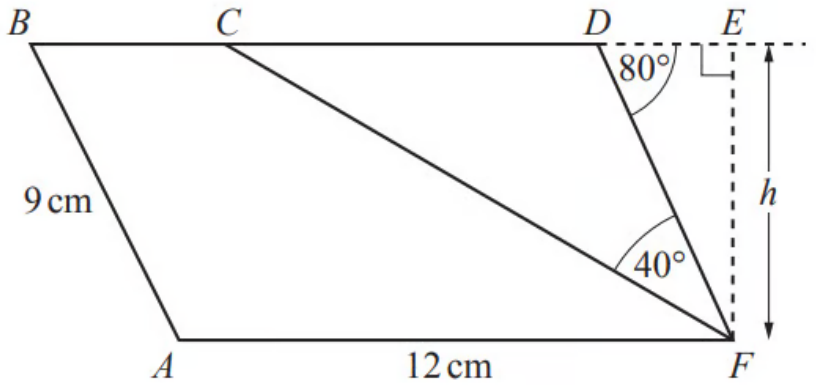
Calculate the lower bound of the length of the side of the square.

..... cm

(2 marks)

Very Hard Questions

1



NOT TO SCALE

ABDF is a parallelogram and *BCDE* is a straight line. *AF* = 12cm, *AB* = 9 cm, angle *CFD* = 40° and angle *FDE* = 80°.

i) Calculate the height, h, of the parallelogram.

h = ... cm [2]

ii) Calculate the area of the **trapezium** *ABCF*.

..... cm^2 [3]

(5 marks)

2 The sides of an isosceles triangle are measured correct to the nearest millimetre. One side has a length of 8.2 cm and another has a length of 9.4 cm.

Find the largest possible value of the perimeter of this triangle.

..... cm

(3 marks)

3 Find the area of a regular hexagon with side length 7.4 cm.

..... cm^2

(3 marks)

4

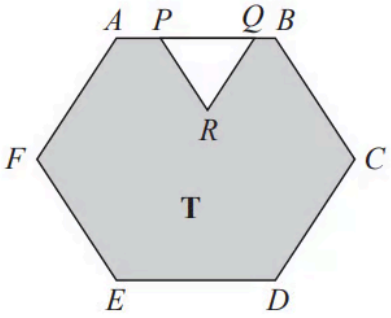


Diagram **NOT** accurately drawn

The diagram shows a shaded region **T** formed by removing an equilateral triangle PQR from a regular hexagon $ABCDEF$.

The points P and Q lie on AB such that $AB = 1.5 \times PQ$.

Given that the area of region **T** is $72\sqrt{3}$ cm^2 work out the length of PQ.

..... cm

(4 marks)