



EXAM PAPERS PRACTICE

GCSE OCR Math J560

Pythagoras

Question Paper

*"We will help you to
achieve A Star "*



Question 1

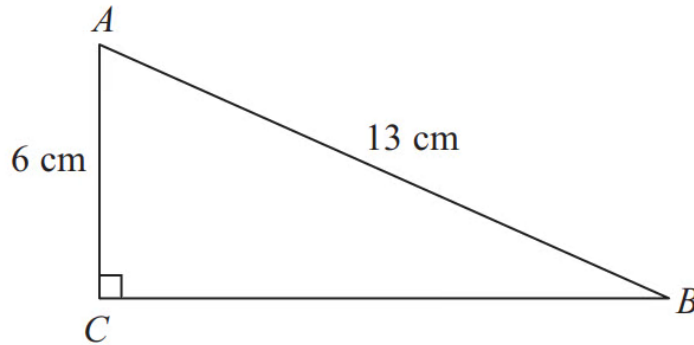


Diagram **NOT**
accurately drawn

ABC is a right-angled triangle.

$AC = 6\text{ cm}$

$AB = 13\text{ cm}$

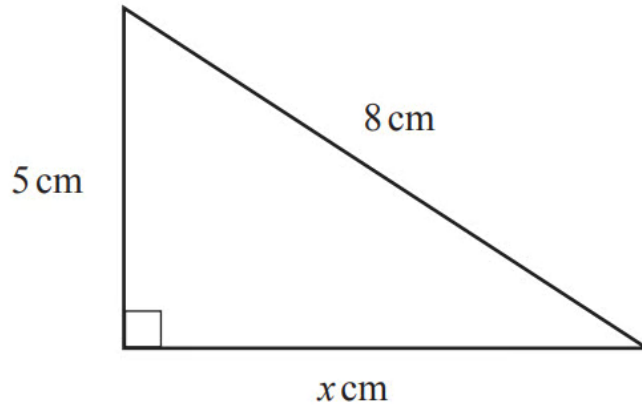
Work out the length of BC .

Give your answer correct to 3 significant figures.

[3 marks]



Question 2



NOT TO
SCALE

Calculate the value of x .

[3 marks]



Question 3

XYZ is a right-angled triangle.

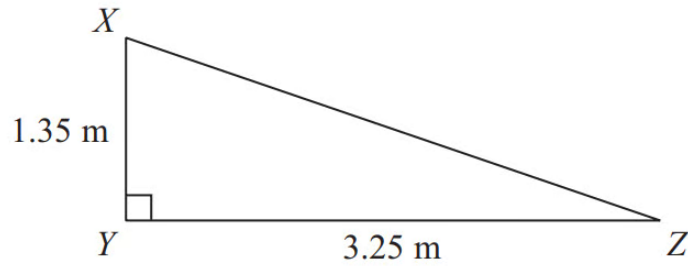


Diagram **NOT** accurately drawn

Calculate the length of XZ .
Give your answer correct to 3 significant figures.

[3 marks]



Question 4

Here is a right-angled triangle.

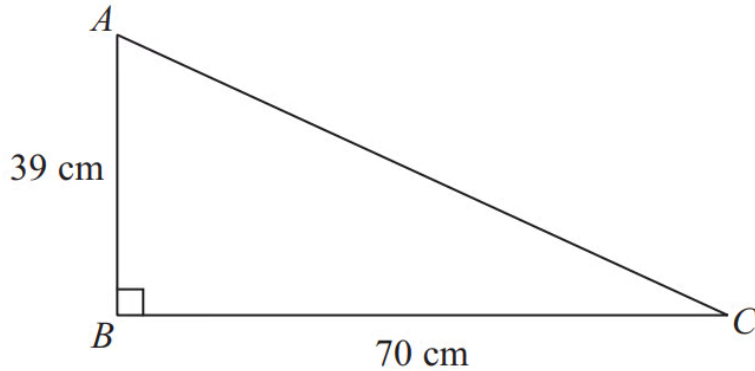


Diagram **NOT**
accurately drawn

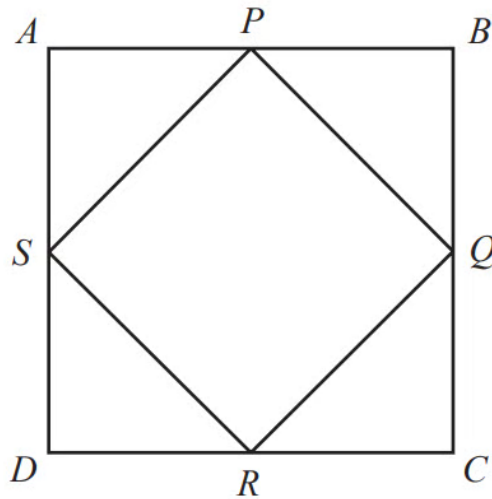
Work out the length of AC .
Give your answer correct to 1 decimal place.

[3 marks]



Question 5

A square $ABCD$, of side 8 cm, has another square, $PQRS$, drawn inside it. P, Q, R and S are at the midpoints of each side of the square $ABCD$, as shown in the diagram.



NOT TO
SCALE

- (a) Calculate the length of PQ .

[2 marks]



Question 6

Here is a rectangle.

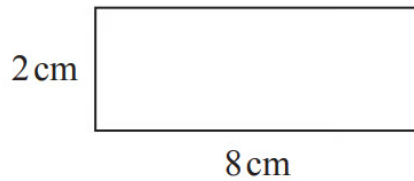


Diagram **NOT**
accurately drawn

The 8-sided shape below is made from 4 of these rectangles and 4 congruent right-angled triangles.

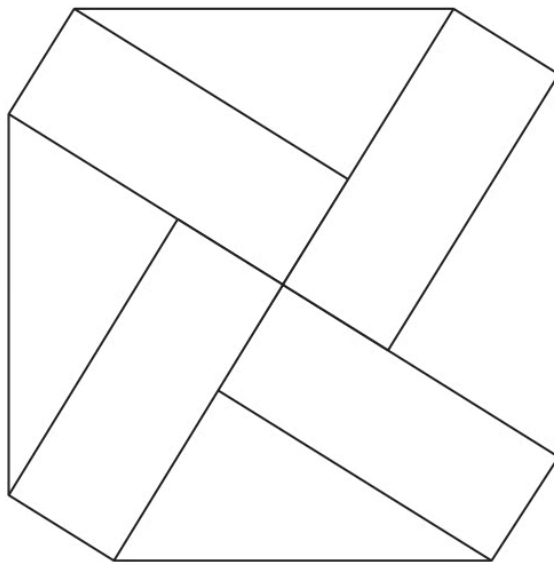


Diagram **NOT**
accurately drawn

Work out the perimeter of the 8-sided shape.
You must show all your working.



Question 7

The diagram shows a rectangular framework.

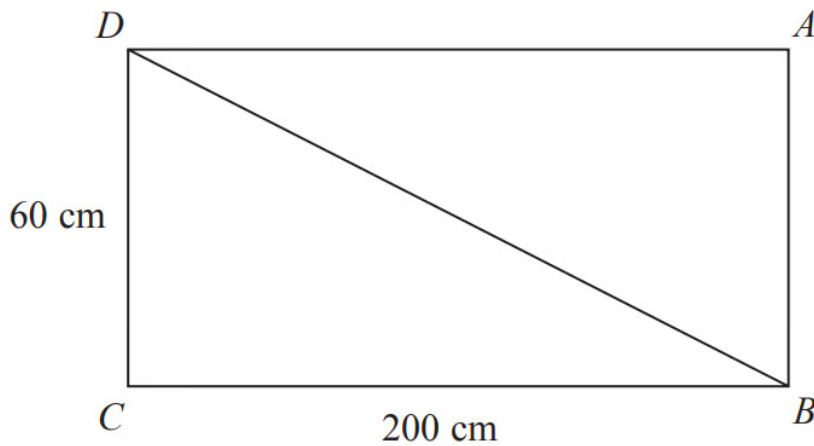


Diagram **NOT**
accurately drawn

The framework is made from 5 metal rods.
The metal rods have a weight of 0.9 kg per metre.

Work out the total weight of the framework.
Give your answer, in kg, correct to 3 significant figures.

[4 marks]



Question 8

Triangle ABC has perimeter 20 cm.

$$AB = 7 \text{ cm.}$$

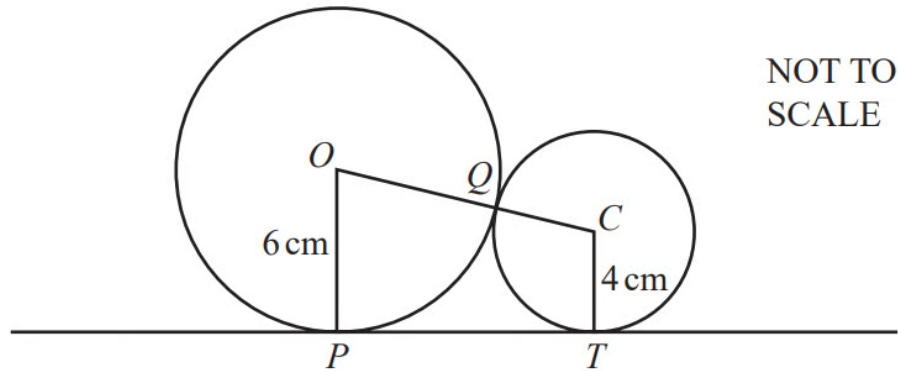
$$BC = 4 \text{ cm.}$$

By calculation, deduce whether triangle ABC is a right-angled triangle.

[4 marks]



Question 9



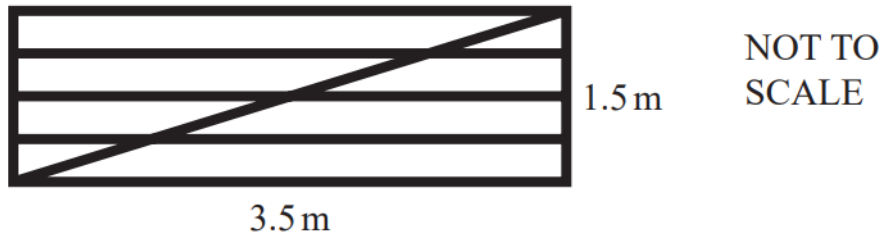
Two circles, centres O and C , of radius 6 cm and 4 cm respectively, touch at Q .
 PT is a tangent to both circles.

(a) Write down the distance OC .

[1 mark]



Question 10



The diagram represents a rectangular gate measuring 1.5m by 3.5m.
It is made from eight lengths of wood.

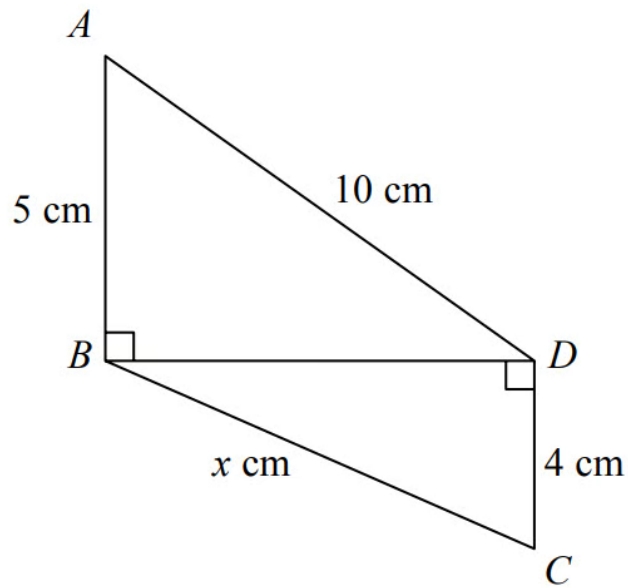
Calculate the total length of wood needed to make the gate.

[3 marks]



Question 11

Triangles ABD and BCD are right-angled triangles.



Work out the value of x .

Give your answer correct to 2 decimal places.

[4 marks]



Question 12

Here is part of a field.

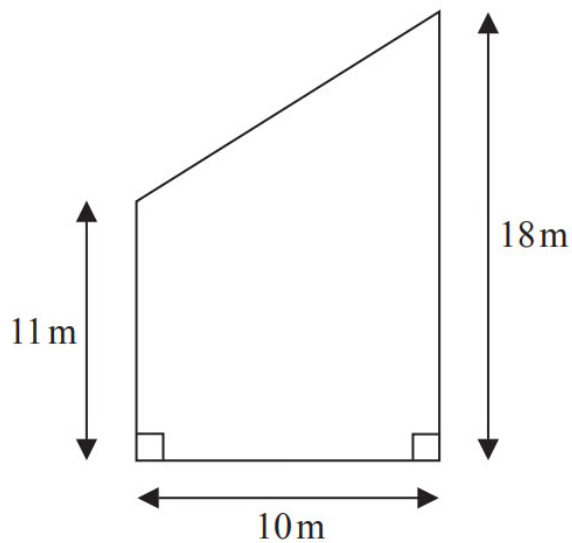


Diagram **NOT**
accurately drawn

This part of the field is in the shape of a trapezium.

A farmer wants to put a fence all the way around the edge of this part of the field.

The farmer has 50m of fence.

Does he have enough fence?

You must show all your working.

[5 marks]



Question 13

A square, with sides of length x cm, is inside a circle.
Each vertex of the square is on the circumference of the circle.

The area of the circle is 49 cm^2 .

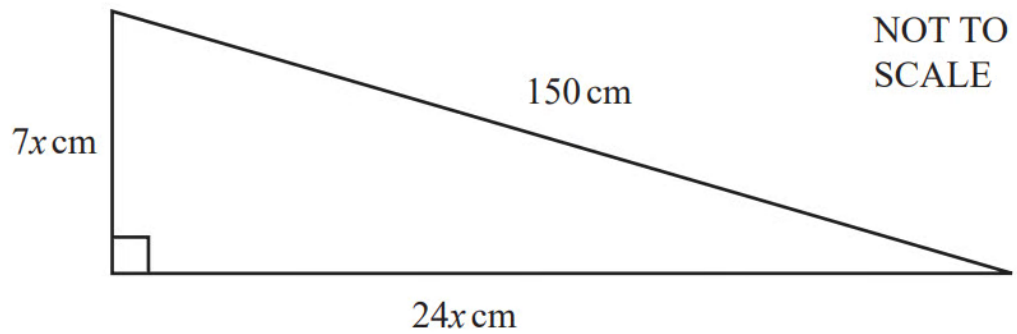
Work out the value of x .

Give your answer correct to 3 significant figures.

[4 marks]



Question 14



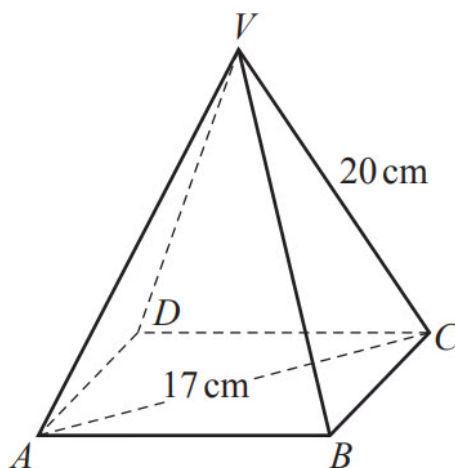
The right-angled triangle in the diagram has sides of length $7x$ cm, $24x$ cm and 150 cm.

(a) Show that $x^2 = 36$.

[2 marks]

Question 15

The diagram shows a pyramid with a square base $ABCD$.
All the sloping edges of the pyramid are 20 cm long and $AC = 17$ cm.



NOT TO SCALE

Calculate the height of the pyramid.