G124 Pythagoras

Q1.

GHJ is a right-angled triangle.

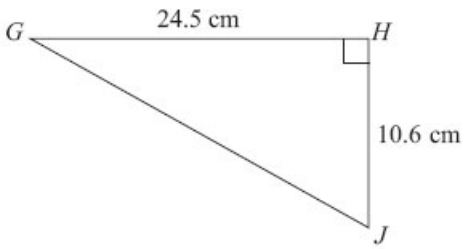


Diagram **NOT** accurately drawn

Calculate the length of *GJ*.
Give your answer correct to one decimal place.

(Total for Question is 3 marks)

Q2.

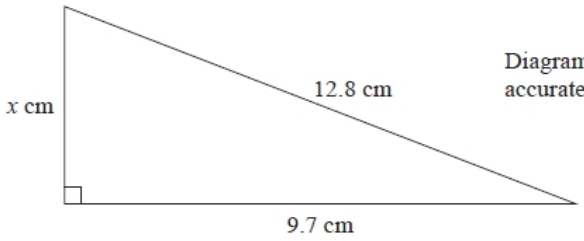


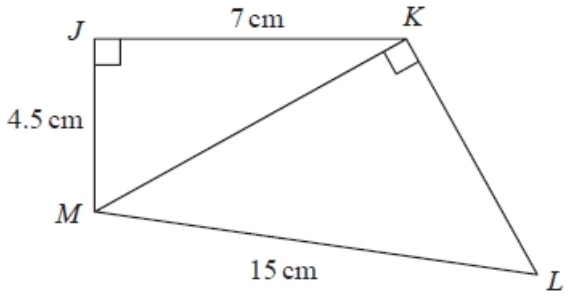
Diagram **NOT** accurately drawn

Work out the value of *x*.
Give your answer correct to 3 significant figures.

(Total for question = 3 marks)

Q3.

The diagram shows a quadrilateral *JKLM*.



Work out the size of angle *KLM*.
Give your answer correct to 3 significant figures.

..... °

(Total for question = 4 marks)

Q4.

Triangle *ABC* has perimeter 20 cm.

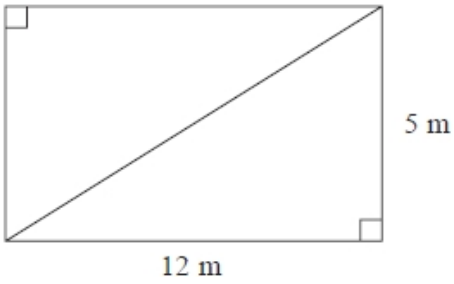
AB = 7 cm.
BC = 4 cm.

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

(Total for question = 4 marks)

Q5.

This rectangular frame is made from 5 straight pieces of metal.



The weight of the metal is 1.5 kg per metre.

Work out the total weight of the metal in the frame.

..... kg

(Total for question = 5 marks)

Q6.

* Here is part of a field.

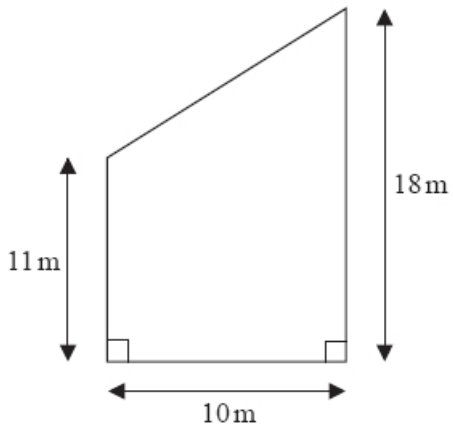


Diagram **NOT** accurately drawn

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.

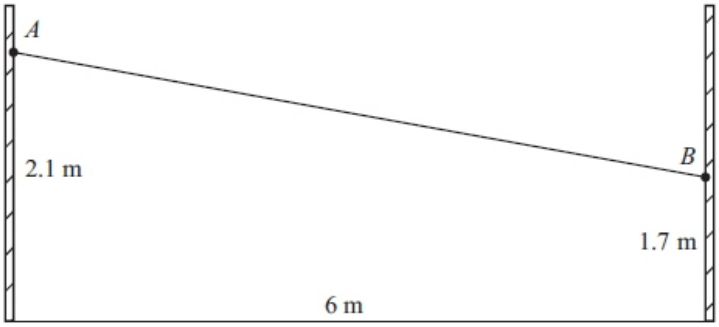
Does he have enough fence?
You must show all your working.

(Total for question = 5 marks)

Q7.

A washing line is attached at points A and B on two vertical posts standing on horizontal ground.
Point *A* is 2.1 metres above the ground on one post.
Point B is *1.7* metres above the ground on the other post. The horizontal distance between the two posts is 6 metres.

Diagram **NOT** accurately drawn



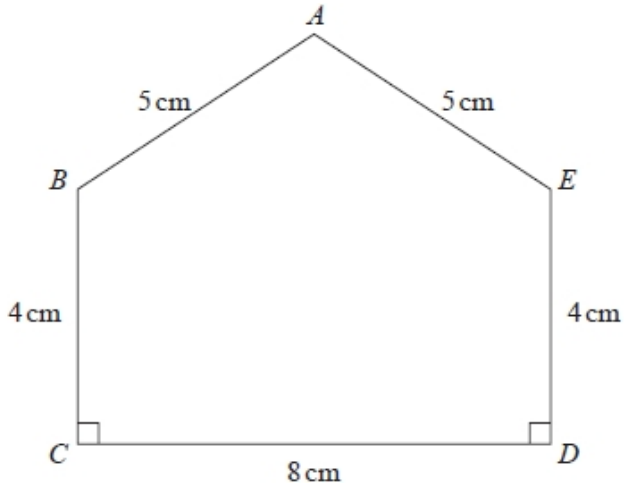
Calculate the distance *AB*.
Give your answer correct to 3 significant figures.

..... m

(Total for question = 4 marks)

Q8.

ABCDE is a pentagon.



Work out the area of *ABCDE*.

..... cm^2

(Total for question = 5 marks)

Q9.

Here is an isosceles triangle.

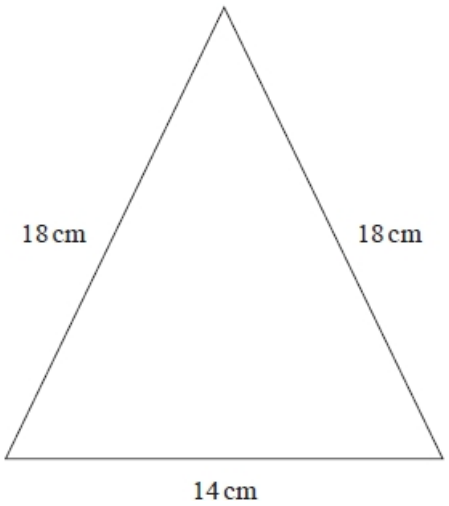


Diagram **NOT** accurately drawn

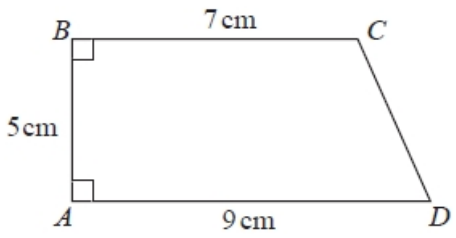
Work out the area of the triangle.
Give your answer correct to 3 significant figures.

..... cm^2

(Total for question = 4 marks)

Q10.

ABCD is a trapezium.



A square has the same perimeter as this trapezium.

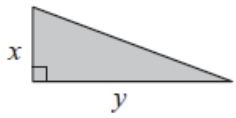
Work out the area of the square.
Give your answer correct to 3 significant figures.

..... cm^2

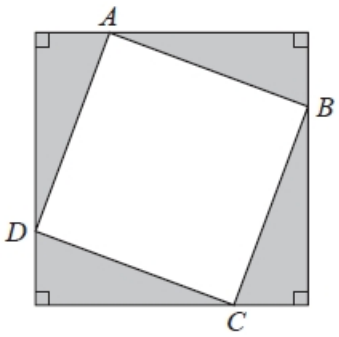
(Total for question is 5 marks)

Q11.

Here is a right–angled triangle.



Four of these triangles are joined to enclose the square *ABCD* as shown below.



Show that the area of the square *ABCD* is $x^2 + y^2$

(Total for question = 3 marks)

Q12.

ABCD is a trapezium.

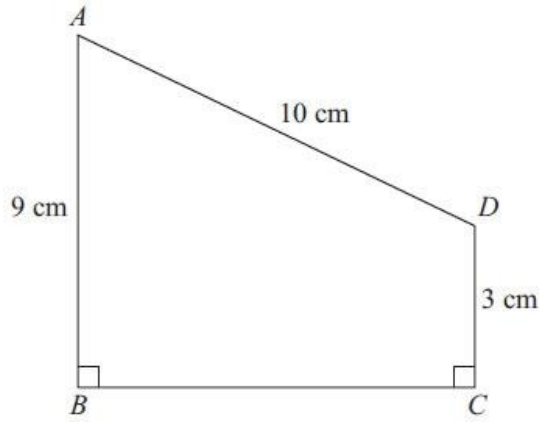


Diagram **NOT** accurately drawn

AD = 10 cm
AB = 9 cm
DC = 3 cm
Angle *ABC* = angle *BCD* = 90°

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

(Total for Question is 5 marks)

Q13.

The diagram shows a square *ABCD* inside a circle.

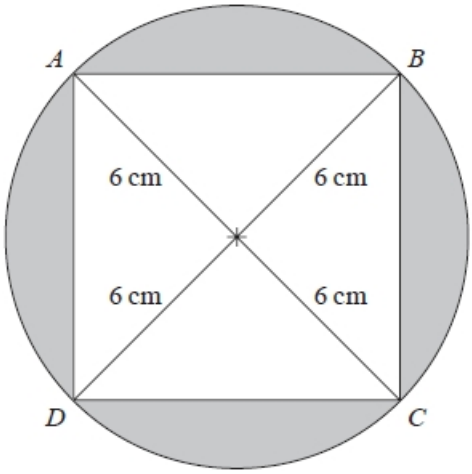


Diagram **NOT** accurately drawn

The points *A*, *B*, *C* and *D* lie on the circle.

The radius of the circle is 6 cm.

Work out the total area of the shaded regions.
Give your answer correct to 3 significant figures.

..... cm^2

(Total for question = 4 marks)