



Scan for the solutions

Name: _____

Date: _____

Score: _____ / 65

- 1** The diagram shows a right-angled triangle PQR.
- Write down the name of the side that is the hypotenuse.
 - Show that the three lengths fit Pythagoras' theorem.

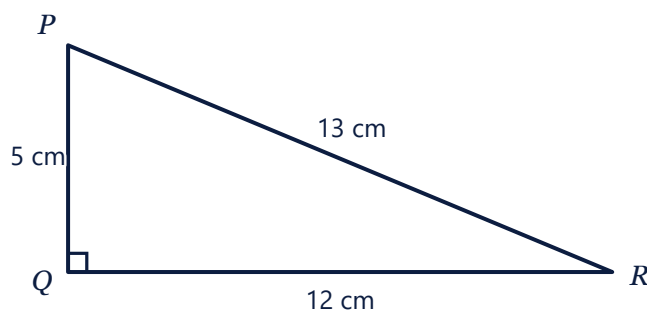


Diagram NOT accurately drawn

(2 marks)

Answer _____

2

Triangle ABC is a right-angled triangle with the right angle at B.

$AB = 6\text{ cm}$ and $BC = 8\text{ cm}$.

Work out the length of AC.

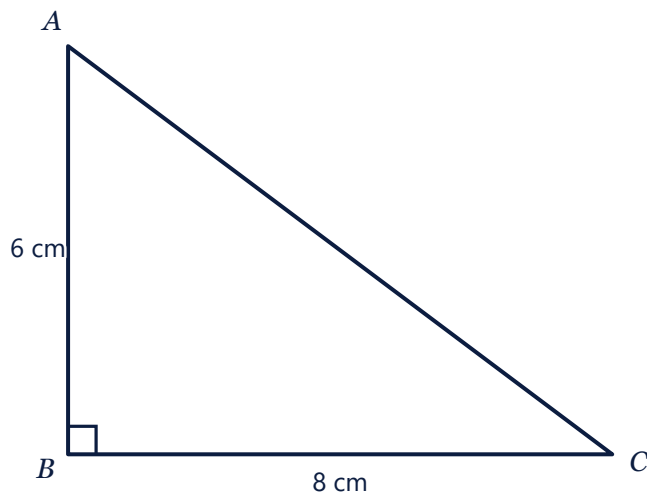


Diagram NOT accurately drawn

(2 marks)

Answer

- 3** Triangle PQR is a right-angled triangle with the right angle at Q.
PQ = 7 cm and QR = 9 cm.
Work out the length of PR.
Give your answer correct to 1 decimal place.

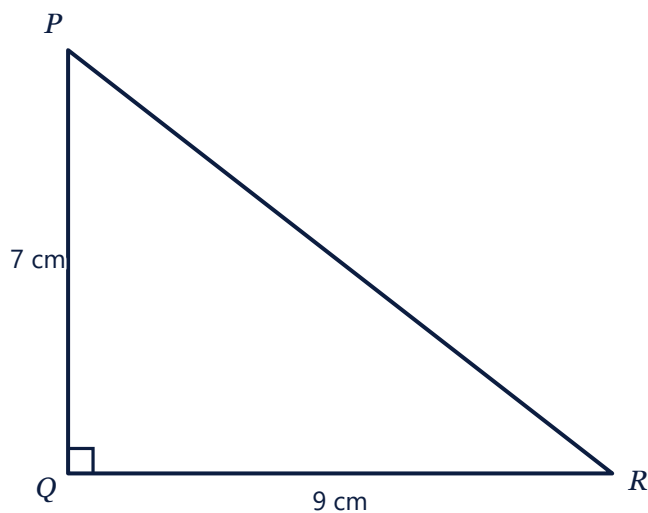


Diagram NOT accurately drawn

(2 marks)

Answer _____

- 4** The diagram shows a right-angled triangle.
Work out the length x.

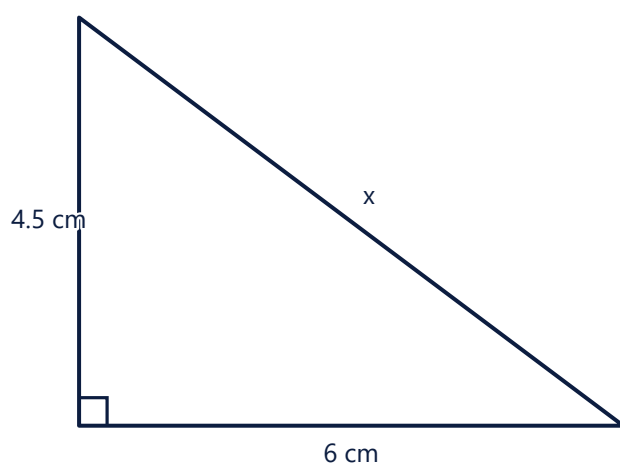


Diagram NOT accurately drawn

(2 marks)

Answer _____

5 The diagrams show two right-angled triangles.

a. Work out the length x .

b. Work out the length y . Give your answer correct to 1 decimal place.

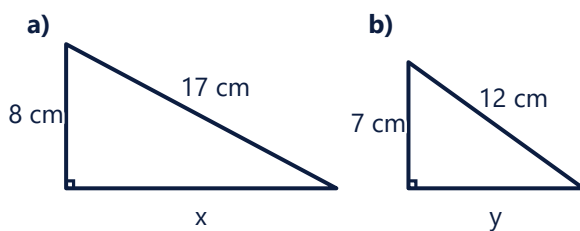


Diagram NOT accurately drawn

(3 marks)

Answer _____

6 A rectangle is 9 cm long and 6 cm wide.

Work out the length of a diagonal of the rectangle.

Give your answer correct to 1 decimal place.

(2 marks)

Answer _____

7 a. A is the point (1, 2) and B is the point (7, 10). Work out the length of the line segment AB.

b. C is the point (-3, 4) and D is the point (2, -8). Work out the length of the line segment CD.

(3 marks)

Answer _____

8 A triangle has sides of length 10 cm, 24 cm and 26 cm.

Show that the triangle is a right-angled triangle.

(3 marks)

Answer _____

- 9 A rectangular football pitch is 100 m long and 64 m wide.

Sam runs from one corner to the opposite corner along the diagonal.

Tom runs from the same corner to the same opposite corner along two sides of the pitch.

How much further does Tom run than Sam? Give your answer correct to 1 decimal place.

(3 marks)

Answer _____

- 10 ABCD is a trapezium in which AB is parallel to DC.

Angle ADC = angle DAB = 90° .

AB = 9 cm, AD = 12 cm and DC = 14 cm.

Work out the perimeter of the trapezium.

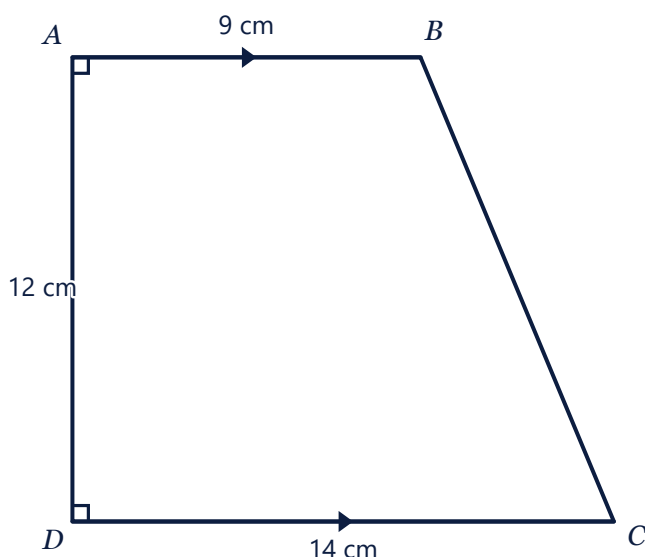


Diagram NOT accurately drawn

(4 marks)

Answer _____

11

The diagram shows an isosceles triangle with two sides of 13 cm and a base of 10 cm.

- Work out the perpendicular height h of the triangle.
- Work out the area of the triangle.

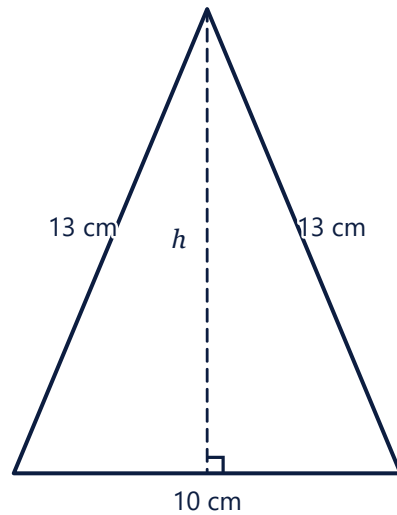


Diagram NOT accurately drawn

(4 marks)

Answer

12 A field ABCD is a trapezium in which AB is parallel to DC.

Angle DAB = angle ADC = 90° .

AB = 25 m, AD = 15 m and DC = 33 m.

Joe wants to put a fence around the whole perimeter of the field.

Fencing is sold in 12 m rolls. Each roll costs £19.50.

Work out the total cost of the rolls of fencing Joe must buy.

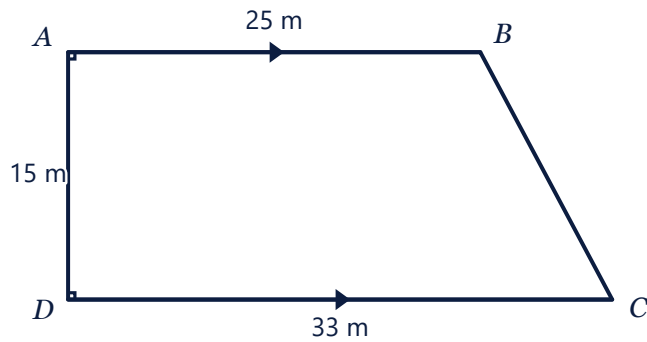


Diagram NOT accurately drawn

(5 marks)

Answer _____

EXTENSION QUESTIONS

13

ABC is a right-angled triangle. $AB = 12$ cm, $BC = 5$ cm and $AC = 13$ cm. Angle $BAC = \theta$

- Write down which side is the hypotenuse, which side is opposite θ and which side is adjacent to θ
- Write $\sin \theta$, $\cos \theta$ and $\tan \theta$ as fractions.

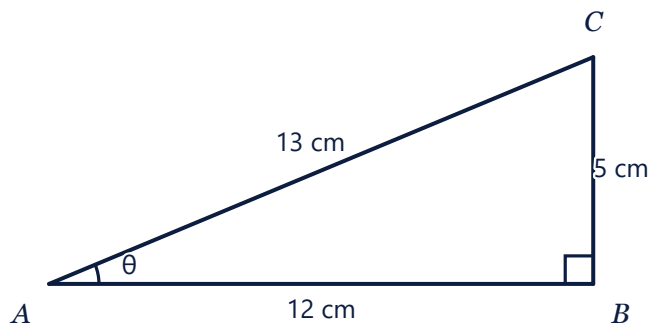


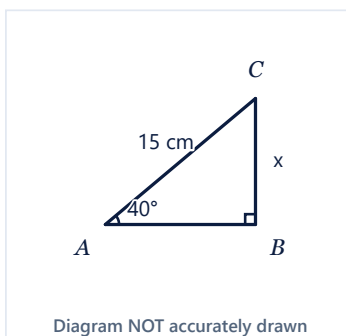
Diagram NOT accurately drawn

(4 marks)

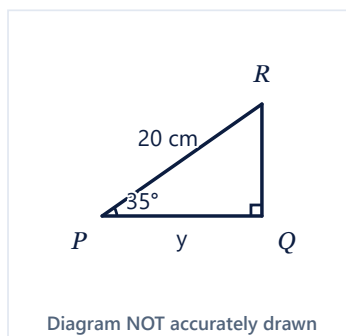
Answer _____

14

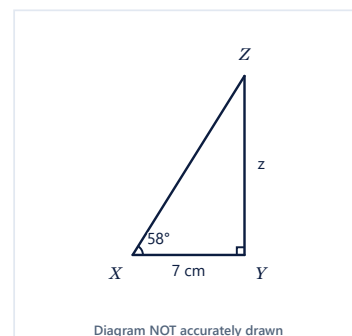
Work out the length of the side marked with a letter in each triangle. Give each answer correct to 3 significant figures.



(a)



(b)

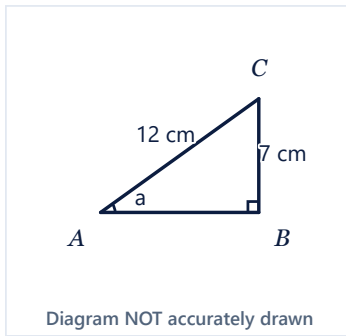


(c)

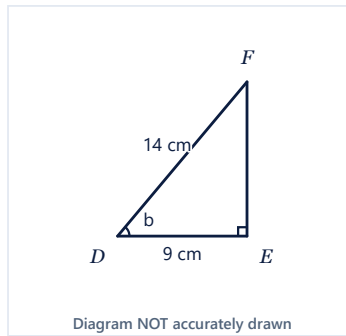
(4 marks)

Answer _____

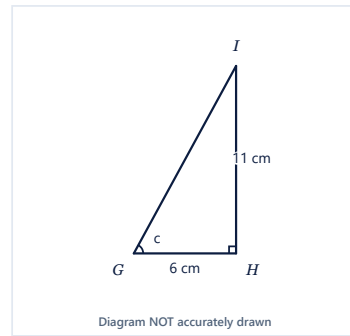
- 15** Work out the size of the angle marked a , b and c . Give each answer correct to 1 decimal place.



(a)



(b)



(c)

(4 marks)

Answer _____

- 16** A wheelchair ramp is 4.5 m long. It makes an angle of 8° with the horizontal ground.
- Work out the height, h , that the ramp rises. Give your answer correct to 3 significant figures.
 - Work out the horizontal distance, d , that the ramp covers. Give your answer correct to 3 significant figures.
 - A safety rule says a ramp should rise no more than 1 m for every 12 m across. Does this ramp follow the rule? Show how you decide.

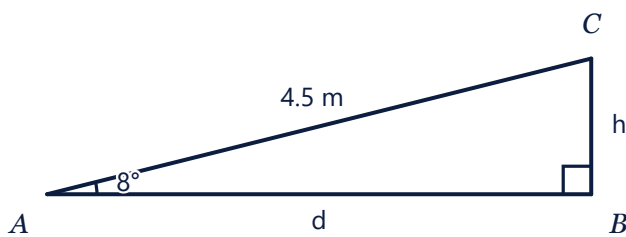


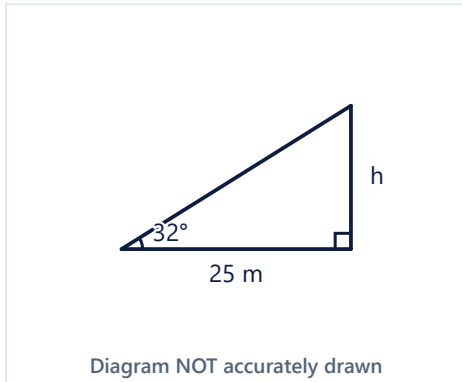
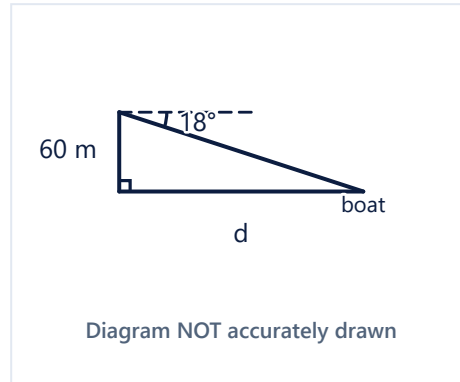
Diagram NOT accurately drawn

(4 marks)

Answer _____

17

- a. Sofia stands 25 m from the foot of a tree, on level ground. The angle of elevation of the top of the tree from where she stands is 32° . Work out the height of the tree, h . Give your answer correct to 3 significant figures.
- b. The top of a cliff is 60 m above the sea. From the top of the cliff, the angle of depression of a boat is 18° . Work out the distance, d , of the boat from the foot of the cliff. Give your answer correct to 3 significant figures.

**(a)****(b)**

(4 marks)

Answer _____

- 18** In triangle ABC, angle ABC = 90° and angle BAC = 30° .
AC = 14 cm.
Without using a calculator, work out the length of BC.
You must show your working.

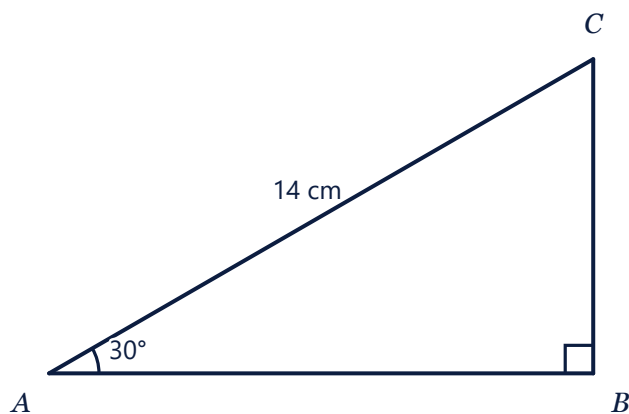


Diagram NOT accurately drawn

(3 marks)

Answer _____

- 19** In triangle ABC, angle BAC = 35° , angle ABC = 78° and BC = 9.4 cm.
Work out the length of AC. Give your answer correct to 3 significant figures.

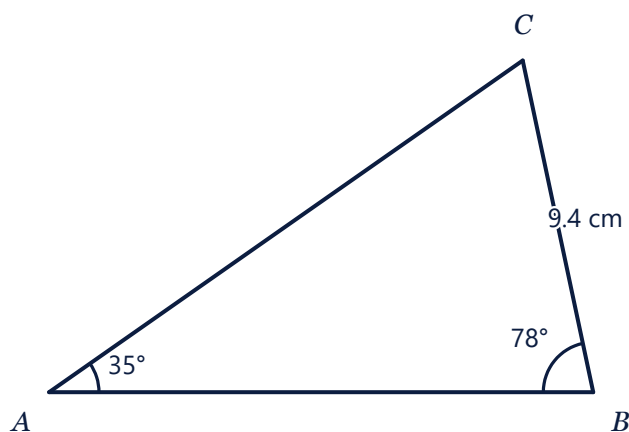


Diagram NOT accurately drawn

(3 marks)

Answer _____

20

In triangle ABC, $AB = 8\text{ cm}$, $AC = 11\text{ cm}$ and angle $BAC = 62^\circ$.

Work out the length of BC. Give your answer correct to 3 significant figures.

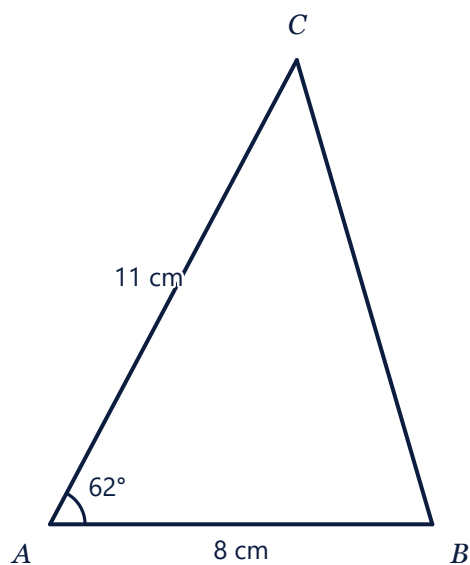


Diagram NOT accurately drawn

(4 marks)

Answer _____

End of questions | Total 65 marks