

Pythagoras' Theorem

ANSWERS

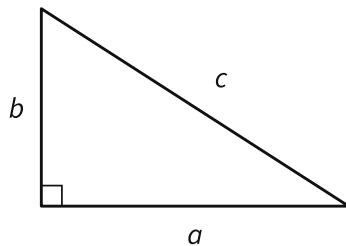
Calculator | 30 minutes | Total marks: 25

Name

Class

1

Here is a right angled triangle.



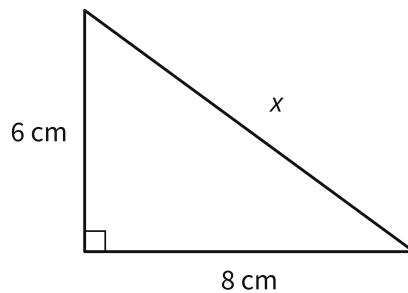
Not drawn accurately

Write down the letter of the hypotenuse.

Answer c (1) [1 mark]

2

(a) Work out the length of x .



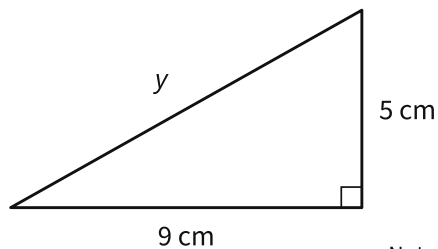
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$$6^2 + 8^2 = 100 \text{ (1)}$$

$x =$ 10 (1) cm [2 marks]

(b) Work out the length of y .

Give your answer to 1 decimal place.

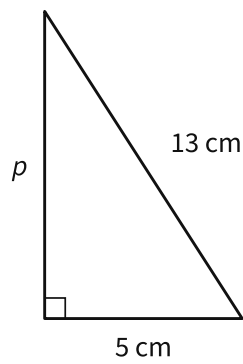


Not drawn accurately

$$5^2 + 9^2 = 106 \text{ (1)}$$
$$\sqrt{106} \text{ (1)}$$

$y =$ 10.3 (1) cm [3 marks]

3

(a) Work out the length of p .

Not drawn accurately

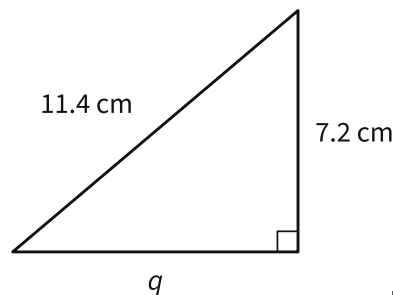
$$13^2 - 5^2 = 144 \quad (1)$$

$$\sqrt{144} \quad (1)$$

$$p = \underline{12 \quad (1)} \text{ cm} \quad [3 \text{ marks}]$$

(b) Work out the length of q .

Give your answer to 1 decimal place.



Not drawn accurately

$$11.4^2 - 7.2^2 = 78.12 \quad (1)$$

$$\sqrt{78.12} \quad (1)$$

$$q = \underline{8.8 \quad (1)} \text{ cm} \quad [3 \text{ marks}]$$

4

A triangle has sides of length 7 cm, 24 cm and 25 cm.

Is the triangle right angled?

You **must** show your working.

$$7^2 + 24^2 = 49 + 576 = 625 \quad (1)$$

$$25^2 = 625, \text{ so yes} \quad (1)$$

[2 marks]

5

A is the point (1, 2) and B is the point (5, 5)

Work out the length of the line AB.

$$4 \text{ across and } 3 \text{ up} \quad (1)$$

$$4^2 + 3^2 = 25 \quad (1)$$

$$\text{Answer } \underline{5 \quad (1)} \text{ units} \quad [3 \text{ marks}]$$

- 6 A television screen is a rectangle 80 cm wide and 45 cm high.

Work out the length of the diagonal of the screen.

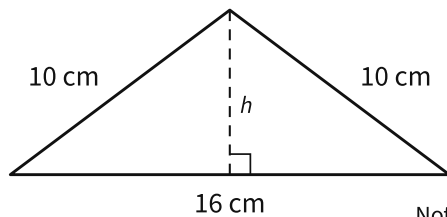
Give your answer to 1 decimal place.

$$80^2 + 45^2 = 8425 \text{ (1)}$$

$$\sqrt{8425} \text{ (1)}$$

Answer 91.8 (1) cm [3 marks]

- 7 The diagram shows an isosceles triangle.



Not drawn accurately

Work out the height, h , of the triangle.

$$\text{half the base is } 8 \text{ (1)}$$

$$10^2 - 8^2 = 36 \text{ (1)}$$

$h =$ 6 (1) cm [3 marks]

- 8 A ship sails 9 km due east and then 12 km due north.

Work out how far the ship is from its starting point, in a straight line.

$$9^2 + 12^2 = 225 \text{ (1)}$$

Answer 15 (1) km [2 marks]

Question	Topic	RAG
1	I can identify the hypotenuse	
2	I can find the length of the hypotenuse	
3	I can find the length of a shorter side	
4	I can test whether a triangle is right angled	
5	I can find the length of a line between two points	
6	I can use Pythagoras' theorem in a rectangle	
7	I can use Pythagoras' theorem in an isosceles triangle	
8	I can solve a problem using Pythagoras' theorem	