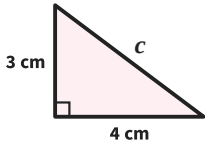


Pythagoras: Finding the Hypotenuse

ANSWERS 

1

Find the length of the hypotenuse, c .



$$c^2 = 3^2 + 4^2$$

$$c^2 = 9 + 16$$

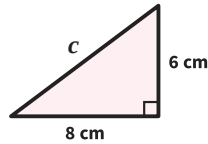
$$c^2 = 25$$

$$c = \sqrt{25}$$

$c = 5 \text{ cm}$

2

Find the length of the hypotenuse, c .



$$c^2 = 6^2 + 8^2$$

$$c^2 = 36 + 64$$

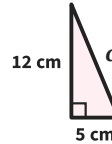
$$c^2 = 100$$

$$c = \sqrt{100}$$

$c = 10 \text{ cm}$

3

Find the length of the hypotenuse, c .



$$c^2 = 12^2 + 5^2$$

$$c^2 = 144 + 25$$

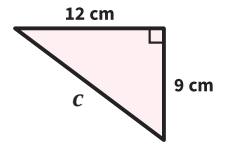
$$c^2 = 169$$

$$c = \sqrt{169}$$

$c = 13 \text{ cm}$

4

Find the length of the hypotenuse, c .



$$c^2 = 9^2 + 12^2$$

$$c^2 = 81 + 144$$

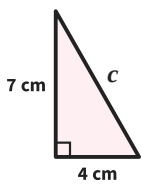
$$c^2 = 225$$

$$c = \sqrt{225}$$

$c = 15 \text{ cm}$

5

Find c to 1 decimal place.



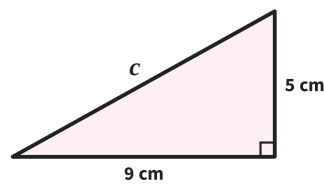
$$c^2 = 7^2 + 4^2$$

$$c^2 = 65, c = \sqrt{65}$$

$c = 8.1 \text{ cm}$

6

Find c to 1 decimal place.



$$c^2 = 5^2 + 9^2$$

$$c^2 = 106, c = \sqrt{106}$$

$c = 10.3 \text{ cm}$

7

A drone flies 5 m straight up, then 2 m sideways. How far is it from where it took off? Give your answer to 1 decimal place.

$$\sqrt{2^2 + 5^2} = \sqrt{29}$$

Answer 5.4 m

8

A rectangle is 9 cm long and 6 cm wide. Find the length of its diagonal to 1 decimal place.

$$\sqrt{9^2 + 6^2} = \sqrt{117}$$

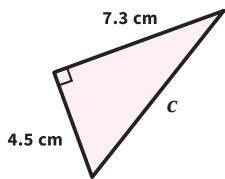
Answer 10.8 cm

Pythagoras: Finding the Hypotenuse *further practice*

ANSWERS 

9

Find c to 1 decimal place.



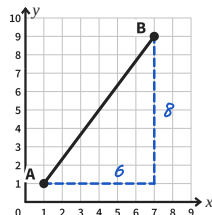
$$c^2 = 4.5^2 + 7.3^2 = 73.54$$

$$c = \sqrt{73.54}$$

$c = 8.6 \text{ cm}$

10

Find the length of the line from A (1, 1) to B (7, 9).

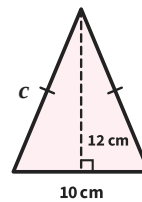


$$\text{across } 6, \text{ up } 8: \sqrt{6^2 + 8^2}$$

Length 10 units

11

The triangle is isosceles. Find the length of the sloping side, c .



$$\text{half the base is } 5 \text{ cm}$$

$$c = \sqrt{5^2 + 12^2} = \sqrt{169}$$

$c = 13 \text{ cm}$

12

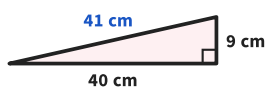
A ferry sails 7 km east, then 4 km north. How far is it from where it started? Give your answer to 1 decimal place.

$$\sqrt{7^2 + 4^2} = \sqrt{65}$$

Answer 8.1 km

13

Find the perimeter of the triangle.



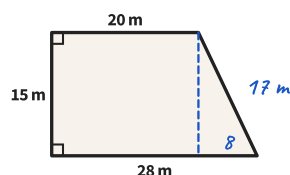
$$\text{hypotenuse} = \sqrt{9^2 + 40^2} = 41$$

$$9 + 40 + 41$$

Perimeter 90 cm

14

A farmer puts a fence all the way round this field. How many metres of fence does she need?



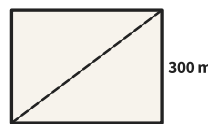
$$\text{sloping side} = \sqrt{8^2 + 15^2} = 17$$

$$20 + 28 + 15 + 17$$

Answer 80 m

15

A park is a 400 m by 300 m rectangle. Leah walks along two edges from one corner to the opposite corner. Sam walks straight across. How much further does Leah walk?



$$\text{Sam: } \sqrt{400^2 + 300^2} = 500$$

$$\text{Leah: } 400 + 300 = 700$$

Answer 200 m

16

A triangle has sides of 9 cm, 12 cm and 16 cm. Kai says it has a right angle. Is Kai right? Explain.

$$9^2 + 12^2 = 225, \text{ but } 16^2 = 256$$

Answer $\text{No, } 225 \neq 256$