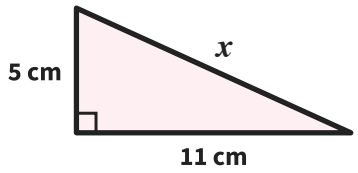
Pythagoras: Finding Any Side

ANSWERS

1

Find x to 2 decimal places.



$x^2 =$ 5 ^{2} + 11 ^{2}

$x^2 =$ 25 + 121

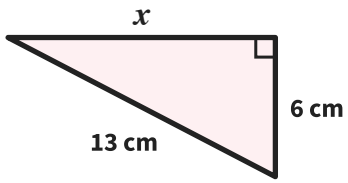
$x^2 =$ 146

$x = \sqrt{}$ 146

$x =$ 12.08 cm

2

Find x to 2 decimal places.



$x^2 =$ 13 ^{2} − 6 ^{2}

$x^2 =$ 169 − 36

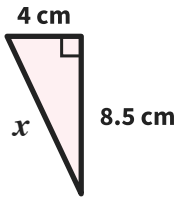
$x^2 =$ 133

$x = \sqrt{}$ 133

$x =$ 11.53 cm

3

Find x to 2 decimal places.



$x^2 =$ 8.5 ^{2} + 4 ^{2}

$x^2 =$ 72.25 + 16

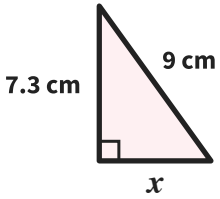
$x^2 =$ 88.25

$x = \sqrt{}$ 88.25

$x =$ 9.39 cm

4

Find x to 2 decimal places.



$x^2 =$ 9 ^{2} − 7.3 ^{2}

$x^2 =$ 81 − 53.29

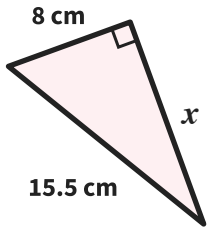
$x^2 =$ 27.71

$x = \sqrt{}$ 27.71

$x =$ 5.26 cm

5

Find x to 2 decimal places.



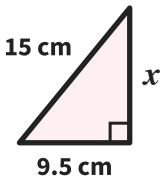
$x^2 =$ 15.5 ^{2} − 8 ^{2}

$x = \sqrt{}$ 176.25

$x =$ 13.28 cm

6

Ben writes $x^2 = 15^2 + 9.5^2$, so x = 17.76 cm.
Explain how you know Ben is wrong.
Then find x to 2 decimal places.



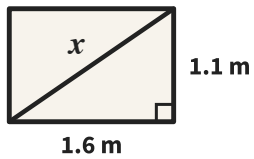
x is shorter than 15: subtract

$x^2 = 15^2 - 9.5^2 = 134.75$

$x =$ 11.61 cm

7

A rectangular solar panel is 1.6 m long and 1.1 m wide. How long is its diagonal? Give your answer to 2 decimal places.

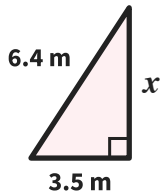


$x^2 = 1.6^2 + 1.1^2 = 3.77$

Answer 1.94 m

8

A sail is a right-angled triangle.
Its sloping edge is 6.4 m and its bottom edge is 3.5 m. How tall is the sail?
Give your answer to 2 decimal places.



$x^2 = 6.4^2 - 3.5^2 = 28.71$

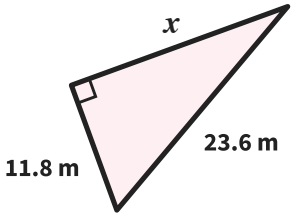
Answer 5.36 m

Pythagoras: Finding Any Side *further practice*

ANSWERS

9

Find x to 2 decimal places.



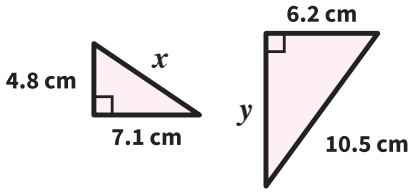
$x^2 = 23.6^2 - 11.8^2 = 417.72$

$x = \sqrt{417.72}$

$x =$ 20.44 m

10

Find x and y to 2 decimal places.



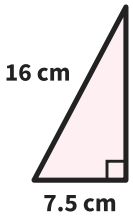
$x^2 = 4.8^2 + 7.1^2 = 73.45$

$y^2 = 10.5^2 - 6.2^2 = 71.81$

Answer $x = 8.57$, $y = 8.47$

11

Find the perimeter of the triangle, to 2 decimal places.



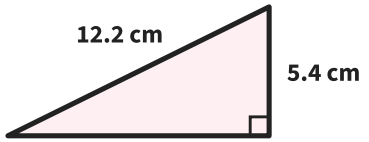
third side $= \sqrt{(16^2 - 7.5^2)} = 14.13$

$16 + 7.5 + 14.13$

Perimeter 37.63 cm

12

Find the area of the triangle, to 2 decimal places.



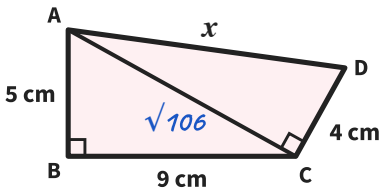
base $= \sqrt{(12.2^2 - 5.4^2)} = 10.9398...$

area $= 5.4 \times 10.9398... \div 2$

Area 29.54 cm^2

13

Find x to 2 decimal places.



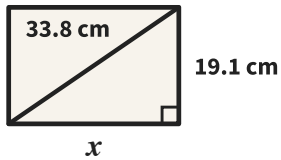
$AC^2 = 5^2 + 9^2 = 106$

$x^2 = 106 + 4^2 = 122$

$x =$ 11.05 cm

14

A laptop screen is a rectangle.
Its diagonal is 33.8 cm and it is 19.1 cm tall. How wide is the screen?
Give your answer to 2 decimal places.

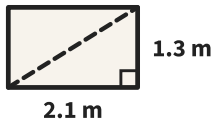


$x^2 = 33.8^2 - 19.1^2 = 777.63$

Answer 27.89 cm

15

The floor of a van is a rectangle 2.1 m by 1.3 m. Can a straight plank 2.4 m long lie flat on the floor?
Show how you know.



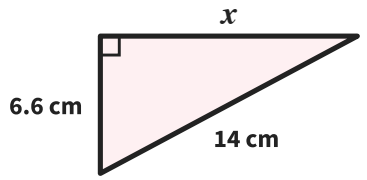
diagonal$^2 = 2.1^2 + 1.3^2 = 6.1$

diagonal $= 2.47$ m

Answer Yes, 2.47 m > 2.4 m

16

Ria says x = 15.48 cm.
Without working out x, explain how you know Ria is wrong. Then find x to 2 decimal places.



$x < 14$ cm, the hypotenuse

$x^2 = 14^2 - 6.6^2 = 152.44$

$x =$ 12.35 cm