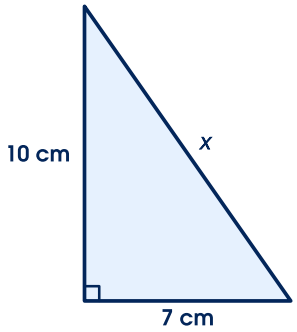
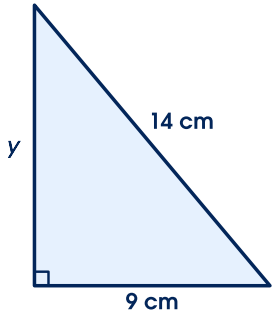
GCSE FOUNDATION · REVISION MAT 4

Pythagoras and trigonometry

1 Work out the length of the side marked x.
Give your answer to 1 decimal place if needed.

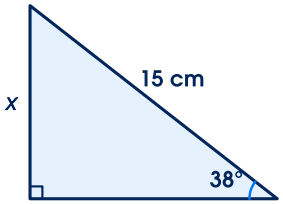


2 Work out the length of the side marked y.
Give your answer to 1 decimal place if needed.

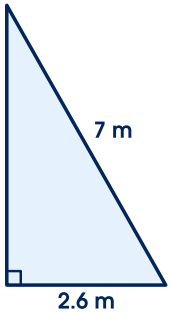


3 A triangle has sides 20 cm, 21 cm and 29 cm.
Show that it is a right-angled triangle.

4 Show that $x = 9.2$ cm,
correct to 1 decimal place.



5 A ladder 7 m long leans against a wall.
The foot of the ladder is 2.6 m from the wall.



(a) How high up the wall does the ladder reach?

(b) The ladder is safe if the angle with the ground is between 70° and 80°. Is it safe?

6 A is the point (–4, –1) and B is the point (5, 11).
Work out the length of the line AB.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 4

Pythagoras and trigonometry

1 $x^2 = 7^2 + 10^2 = 149$

$x =$ **12.2 cm**

2 $y^2 = 14^2 - 9^2 = 115$

$y =$ **10.7 cm**

3 $20^2 + 21^2 = 400 + 441 = 841$

$29^2 = 841$

They are equal, so by Pythagoras it is **right-angled** ✓

4 $x = 15 \times \sin 38°$

$= 9.235... =$ **9.2 cm** ✓

5 (a) $\sqrt{(7^2 - 2.6^2)} =$ **6.50 m**

(b) angle $= \cos^{-1}(2.6 \div 7) = 68.2°$

No, not safe

6 Across 9, up 12

AB $= \sqrt{(9^2 + 12^2)} =$ **15** units