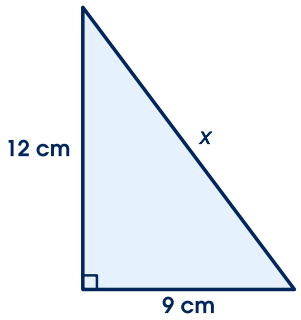
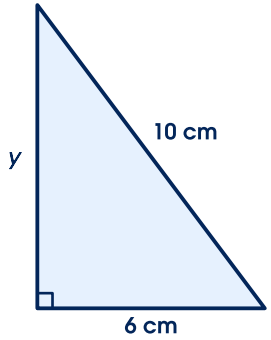
GCSE FOUNDATION · REVISION MAT 3

Pythagoras and trigonometry

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

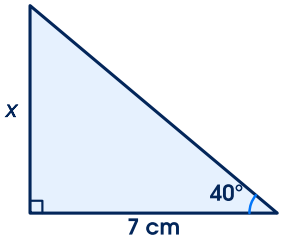


2 Work out the length of the side marked y.
Give your answer to 1 decimal place if needed.

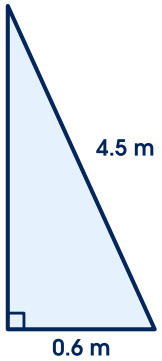


3 A triangle has sides 9 cm, 40 cm and 41 cm.
Show that it is a right-angled triangle.

4 Show that $x = 5.9$ cm,
correct to 1 decimal place.



5 A ladder 4.5 m long leans against a wall.
The foot of the ladder is 0.6 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 (0, –3) and B is the point (8, 3).
Work out the length of the line AB.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 3

Pythagoras and trigonometry

1 $x^2 = 9^2 + 12^2 = 225$

$x =$ **15 cm**

2 $y^2 = 10^2 - 6^2 = 64$

$y =$ **8 cm**

3 $9^2 + 40^2 = 81 + 1600 = 1681$

$41^2 = 1681$

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

4 $x = 7 \times \tan 40°$

$= 5.874... =$ **5.9 cm** ✓

5 (a) $\sqrt{(4.5^2 - 0.6^2)} =$ **4.46 m**

(b) angle $= \cos^{-1}(0.6 \div 4.5) = 82.3°$

No, not safe

6 Across 8, up 6

AB $= \sqrt{(8^2 + 6^2)} =$ **10** units