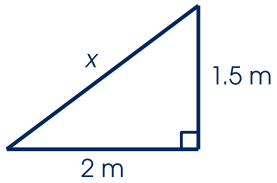
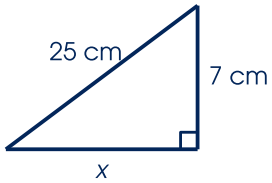
GCSE HIGHER · REVISION MAT 5

Pythagoras and trigonometry

1 Find the length of the hypotenuse.

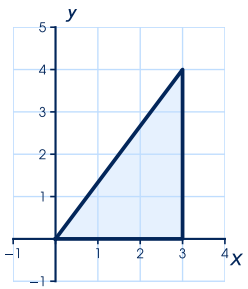


2 Find the length x.



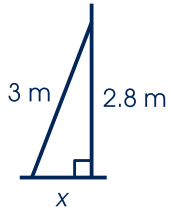
3 Show that (0, 0), (3, 4) and (3, 0) form a right-angled triangle.

Find the length of the hypotenuse.

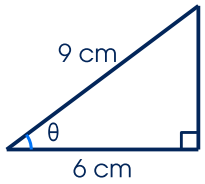


4 A 3 m ladder must reach 2.8 m up a wall.

How far from the wall should its foot be?



5 Show that $\theta = 48.2°$, to 1 d.p.

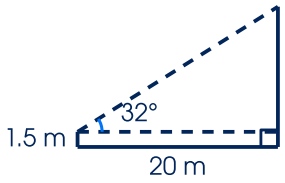


6 Jo stands 20 m from a tree.

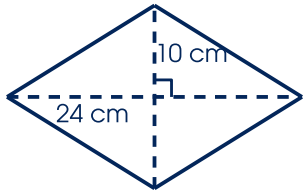
The angle of elevation of the top is 32°.

Her eyes are 1.5 m above the ground.

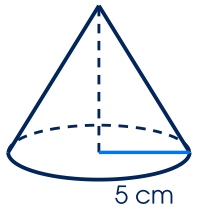
How tall is the tree?



7 Show that a rhombus with diagonals 10 cm and 24 cm has sides of 13 cm.



8 A cone has slant height 13 cm and base radius 5 cm.



Find the angle between the slant edge and the base.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 5

Pythagoras and trigonometry

1 $\sqrt{4 + 2.25} = \sqrt{6.25}$

2.5 m

2 $\sqrt{625 - 49}$

24 cm

3 Sides 3 and 4 meet at a right angle at (3, 0).

Hypotenuse $\sqrt{9 + 16} = 5$

4 $\sqrt{9 - 7.84} = \sqrt{1.16}$

1.08 m

5 $\cos\theta = \frac{6}{9}$

θ = 48.2°

6 $20 \tan 32° = 12.50$

12.50 + 1.5 = 14.0 m

7 Half-diagonals 5 and 12

$\sqrt{25 + 144} = 13$

8 $\cos\theta = \frac{5}{13}$

θ = 67.4°