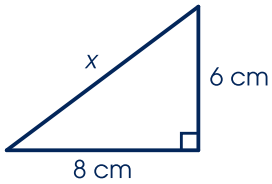
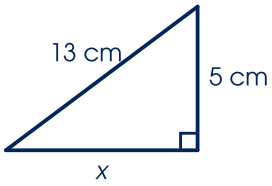
GCSE HIGHER · REVISION MAT 1

Pythagoras and trigonometry

1 Find the length of the hypotenuse.

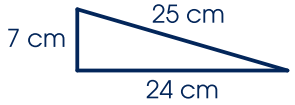


2 Find the length x.



3 Is a triangle with sides 7 cm, 24 cm and 25 cm right-angled?

Show how you know.



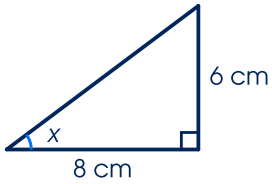
4 A 5 m ladder leans against a wall.

Its foot is 1.4 m from the wall.

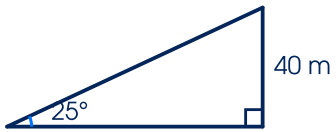
How high up the wall does it reach?



5 Show that the angle x is 36.9°, to 1 d.p.

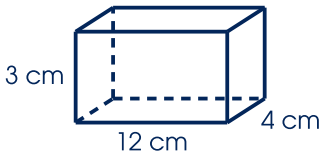


6 The angle of elevation of the top of a 40 m cliff from a boat is 25°.

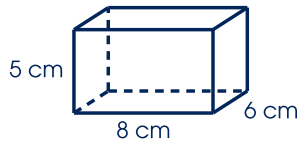


How far is the boat from the foot of the cliff?

7 Show that the diagonal of a 3 cm × 4 cm × 12 cm cuboid is 13 cm.



8 A cuboid measures 8 cm by 6 cm by 5 cm.



Find the angle between a space diagonal and the base.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 1

Pythagoras and trigonometry

1 $\sqrt{8^2 + 6^2} = \sqrt{100}$

10 cm

2 $\sqrt{13^2 - 5^2} = \sqrt{144}$

12 cm

3 $7^2 + 24^2 = 49 + 576 = 625$

$= 25^2$, so yes

4 $\sqrt{25 - 1.96} = \sqrt{23.04}$

4.8 m

5 $\tan x = \frac{6}{8}$

$x = \tan^{-1}(0.75) = 36.9°$

6 $\tan 25° = \frac{40}{d}$

$d = \frac{40}{\tan 25°}$

85.8 m

7 $\sqrt{3^2 + 4^2 + 12^2}$

$= \sqrt{169}$

= 13 cm

8 Base diagonal $\sqrt{64 + 36} = 10$

$\tan \theta = \frac{5}{10}$

$\theta = 26.6°$

Mr&Mrs MATHS