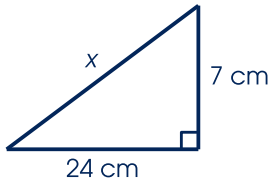
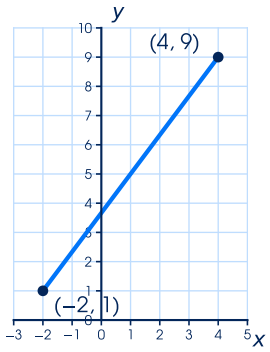
GCSE HIGHER · REVISION MAT 4

Pythagoras and trigonometry

1 Find the length of the hypotenuse.

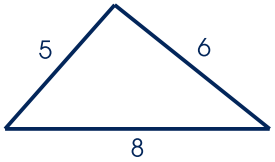


2 Find the distance between (–2, 1) and (4, 9).



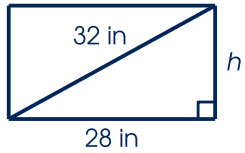
3 Sam says a triangle with sides 5, 6 and 8 is right-angled.

Show that he is wrong.

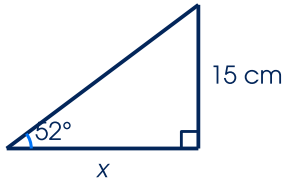


4 A TV screen has a 32-inch diagonal and is 28 inches wide.

Find its height.

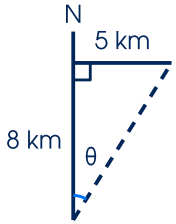


5 Show that $x = 11.7$ cm, to 1 d.p.

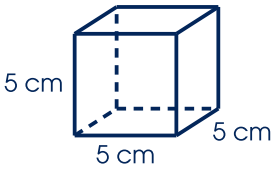


6 A boat sails 8 km north and then 5 km east.

Find its bearing from its start.

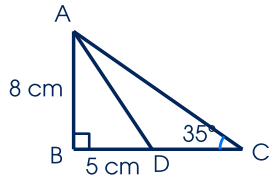


7 Show that the space diagonal of a cube of side 5 cm is $5\sqrt{3}$ cm.



8 ABC is right-angled at B.

D lies on BC.



Find AD and CD.

ANSWERS · REVISION MAT 4

Pythagoras and trigonometry

1 $\sqrt{576 + 49} = \sqrt{625}$

25 cm

2 $\sqrt{6^2 + 8^2}$

10 units

3 $5^2 + 6^2 = 61$

$8^2 = 64 \neq 61$

4 $\sqrt{1024 - 784} = \sqrt{240}$

15.5 inches

5 $\tan 52° = \frac{15}{x}$

$x = \frac{15}{\tan 52°} = 11.7$

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

$\theta = 32.0°$

Bearing 032°

7 $\sqrt{25 + 25 + 25} = \sqrt{75}$

$= 5\sqrt{3}$

8 AD $= \sqrt{64 + 25} = 19.43$ cm

BC $= \frac{8}{\tan 35°} = 11.43$

CD = 6.43 cm

Mr&Mrs MATHS