GCSE HIGHER · REVISION MAT 1

Exact trigonometric values

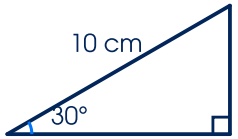
1 Write down the exact value of sin 30°.

2 Write down the exact value of tan 45°.

3 Show that

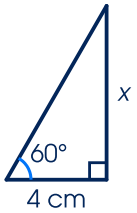
$$\frac{\sin 60°}{\cos 60°} = \sqrt{3}$$

4 Find the exact perimeter of this triangle.

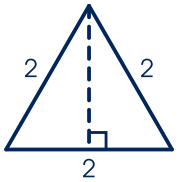


5 Show that $sin^2 45° + cos^2 45° = 1$.

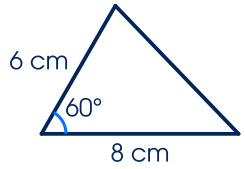
6 Find the exact value of x.



7 Use an equilateral triangle of side 2 to show that cos 60° = $\frac{1}{2}$.



8 Find the exact area of a triangle with sides 6 cm and 8 cm and an included angle of 60°.



Mr&Mrs MATHS

ANSWERS · REVISION MAT 1

Exact trigonometric values

1 $\frac{1}{2}$

2 1

3 $\frac{\sqrt{3}}{2} \div \frac{1}{2}$

$= \sqrt{3}$

4 Opposite 10 sin 30° = 5

Adjacent 10 cos 30° = $5\sqrt{3}$

$(15 + 5\sqrt{3})$ cm

5 $(\frac{\sqrt{2}}{2})^2 + (\frac{\sqrt{2}}{2})^2 = \frac{1}{2} + \frac{1}{2}$

$= 1$

6 $\tan 60° = \frac{x}{4}$

$x = 4\sqrt{3}$ cm

7 Split in half: hypotenuse 2, base 1, angle 60°

$\cos 60° = \frac{1}{2}$

8 $\frac{1}{2} \times 48 \times \frac{\sqrt{3}}{2}$

$12\sqrt{3}$ cm²

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