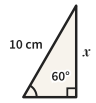
Exact trig values and surds

1

Find the exact value of x. Give your answer as a simplified surd.



$\sin 60° = \frac{\sqrt{3}}{2}$

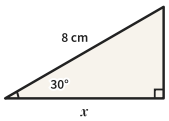
$x = 10 \times \frac{\sqrt{3}}{2}$

$x =$ ☐ cm

Answer _____

2

Find the exact value of x. Give your answer as a simplified surd.



$\cos 30° = \frac{\sqrt{3}}{2}$

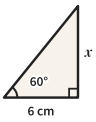
$x =$ ☐

$x =$ ☐ cm

Answer _____

3

Find the exact value of x. Give your answer as a simplified surd.



$\tan 60° =$ ☐

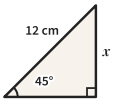
$x =$ ☐

$x =$ ☐ cm

Answer _____

4

Find the exact value of x. Give your answer as a simplified surd.

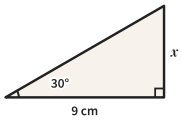


$x =$ ☐ cm

Answer _____

5

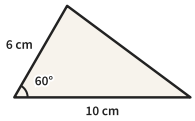
Find the exact value of x. Give your answer as a simplified surd.



Answer _____

6

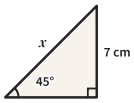
Find the exact area of this triangle. Give your answer as a simplified surd.



Answer _____

7

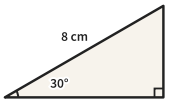
Find the exact value of x. Give your answer as a simplified surd.



Answer _____

8

Find the exact perimeter of this triangle. Give your answer in the form $a + b\sqrt{3}$.



Answer _____

Exact trig values and surds *further practice*

9

Work out the exact value of sin 60° × tan 30°.

Answer _____

10

An equilateral triangle has sides of 6 cm. Find its exact area as a simplified surd.

Answer _____

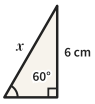
11

A triangle has sides of $4\sqrt{2}$ cm and 5 cm with an angle of 45° between them. Find its exact area.

Answer _____

12

Find the exact value of x as a simplified surd.



Answer _____

13

Work out the exact value of cos 30° × cos 45°. Simplify your answer.

Answer _____

14

A straight ramp is $4\sqrt{3}$ m long and makes an angle of 30° with the ground. Find the exact height of its top and the exact distance along the ground.

Answer _____

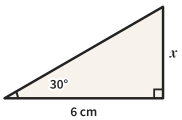
15

A right angled triangle has an angle of 30°. The side next to it, not the hypotenuse, is 5 cm. Find the exact length of the hypotenuse with a rational denominator.

Answer _____

16

Kim finds x with $\tan 30° = \sqrt{3}$ and writes $x = 6\sqrt{3}$ cm. Explain her mistake and find the exact value of x.



Answer _____