Guide to:
Trigonometry (SOHCAHTOA)

maths Links

Explanation:

In a right-angled triangle, label the sides relative to the angle **θ**: **H (Hypotenuse)** is opposite the right angle, **O (Opposite)** is across from θ, and **A (Adjacent)** is next to θ.

Use **SOHCAHTOA**: **sin θ =** $\frac{O}{H}$, **cos θ =** $\frac{A}{H}$, and **tan θ =** $\frac{O}{A}$. To find a missing **angle**, use the inverse buttons **sin^{-1}**, **cos^{-1}**, or **tan^{-1}**.

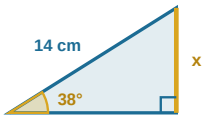
Example 1: A right-angled triangle has hypotenuse **14 cm** and angle **38°**. Find the side **x** opposite the 38° angle (to 1 d.p.).

Solution:

O = x, **H = 14** (**SOH**):

$\sin 38° = \frac{x}{14}$

$x = 14 \times \sin 38° =$ **8.6 cm**



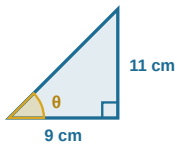
Example 2: In a right-angled triangle, the side opposite angle **θ** is **11 cm** and the adjacent side is **9 cm**. Find **θ** (to 1 d.p.).

Solution:

O = 11, **A = 9** (**TOA**):

$\tan \theta = \frac{11}{9}$

$\theta = \tan^{-1}(\frac{11}{9}) =$ **50.7°**



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Maths Genie	Qs	Ans	**Maths Made Easy**	Qs	Ans
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