Guide to: Pythagoras theorem

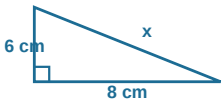
maths Links

Explanation:

Pythagoras' theorem applies to any **right-angled triangle** where ***c* is the hypotenuse** (the longest side, always opposite the right angle): $a^2 + b^2 = c^2$.

Follow the 3-step routine: **Square** both given sides, **Add** them if finding the hypotenuse *c* (or **Subtract** them if finding a shorter side *a* or *b*), and finally take the **Square Root**.

Example 1: Find the hypotenuse *x* of a right-angled triangle with legs **6 cm** and **8 cm**.



Finding hypotenuse (add): $x^2 = 6^2 + 8^2 = 36 + 64 =$ **100**
Square root: $x = \sqrt{100} =$ **10 cm** → **Answer: 10 cm**

Example 2: A right-angled triangle has hypotenuse **14 cm** and one shorter side **9 cm**. Find the other shorter side *y* to **1 d.p.**

Solution:

Finding a shorter side (subtract):
$y^2 = 14^2 - 9^2 = 196 - 81 =$ **115**
Square root: $y = \sqrt{115} = 10.7238\ldots$
Answer: 10.7 cm

Worksheets and other links					
Video Lesson on this topic	Video		**Dr Austin Maths**	Qs	Ans
Ken Stafford (Past Paper Qs)	Qs	Ans	**Maths Made Easy**	Qs	Ans
Maths Genie	Qs	Ans	**Metatutor**	Qs	Ans
Corbettmaths (Practice)	Qs	Ans	**E Classroom**	Qs	Ans
Corbettmaths (Textbook)	Qs	Ans	**PMT (Edexcel)**	Qs	Ans
Naiker Maths	Qs	Ans	**PMT (AQA)**	Qs	Ans

Questions by topic | **Past Papers** | **Maths worksheets**

Buy workbook | **Quizzes** | **More resources like this**

ken@mathslinks.co.uk