Pythagoras Theorem

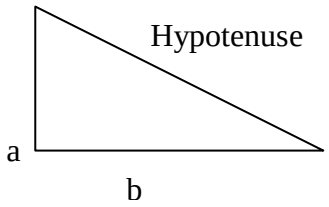
Pythagoras' Theorem is the relationship between the sides of a right angled triangle. It shows that the squares of the two shortest sides are equal to the square of the longest side.

The longest side is called the hypotenuse

The formula is:

$$a^2 + b^2 = c^2$$

where c is always the hypotenuse



Example 1. In a right angled triangle, AB = 23·5*cm* , BC = 19·3*cm* and $\angle ABC = 90°$. Find the length of AC.

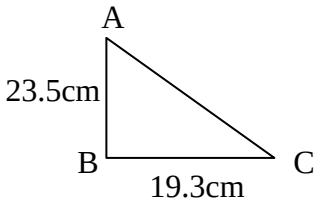
$a^2 + b^2 = c^2$ where $a = 23{\cdot}5$, $b = 19{\cdot}3$

$23{\cdot}5^2 + 19{\cdot}3^2 = x^2$

$552{\cdot}25 + 372{\cdot}49 = x^2$

$924{\cdot}75 = x$

$x = 30{\cdot}41cm$ (2*dp*)



You need to remember that if you don't know the longest side you add

$$a^2 + b^2 = c^2$$

If you know the longest side you subtract

$$a^2 = c^2 - b^2$$