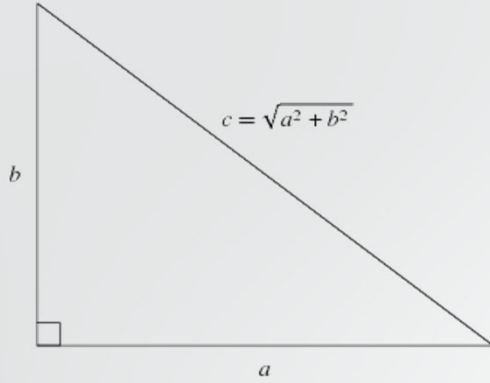
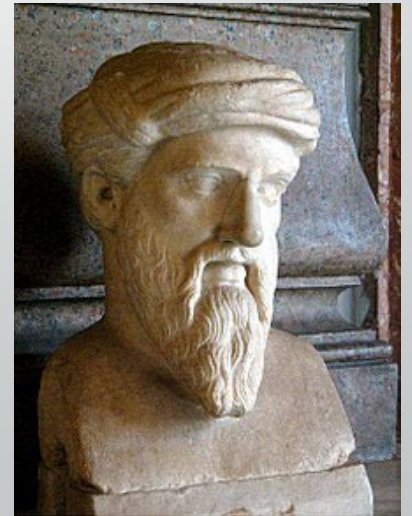


$$a^2 + b^2 = c^2$$

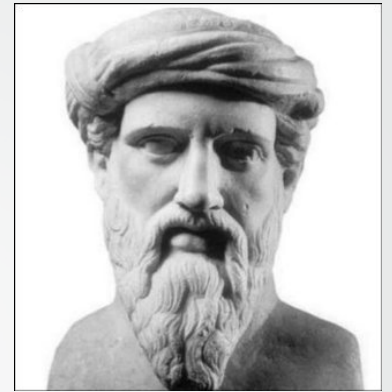


Pythagoras' Theorem

By Tia, Lily and Georgie



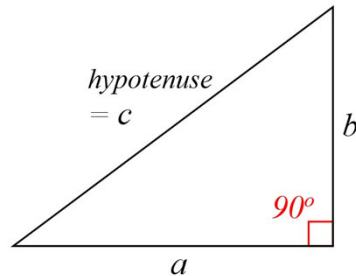
History



- Pythagoras was born on the Greek island of Samos, in 569BCE. Not much is known about his childhood.
- As well as being a mathematician, he was also a renowned philosopher, although is most well known for his founding of the Pythagorean Theorem, named after him.
- His political/religious teachings were well known through Magna Graecia (modern-day Greece) and even influenced the ideas of Aristotle, Plato and to a broader extent Western Philosophy as a whole.
- He died some time between 500 to 495BCE.

Formula

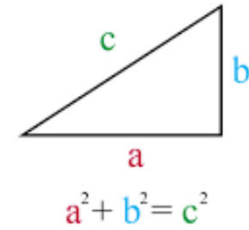
- The formula for Pythagoras is $a^2 + b^2 = c^2$.
- Pythagoras theorem only works for right-angled triangles.
- Pythagoras uses 2 sides of a triangle to find the 3rd side.
- C is the longest side of the triangle (named the hypotenuse) and it is always opposite the right angle.



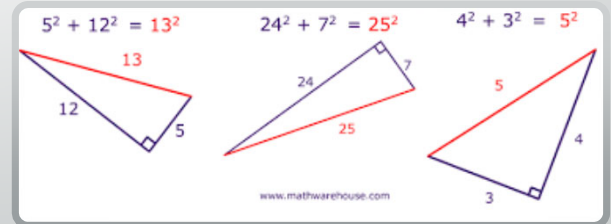
$$c^2 = a^2 + b^2$$

Examples

The Pythagorean Theorem can be used when we know the length of two sides of a right triangle, and we need to get the length of the third side. Example 1: Find the length of the hypotenuse of a right triangle if the lengths of the other two sides are 3 inches and 4 inches.



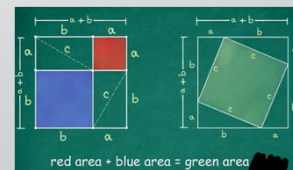
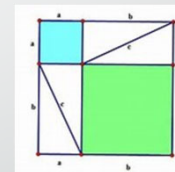
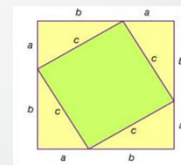
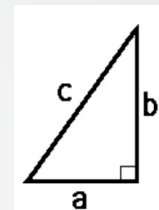
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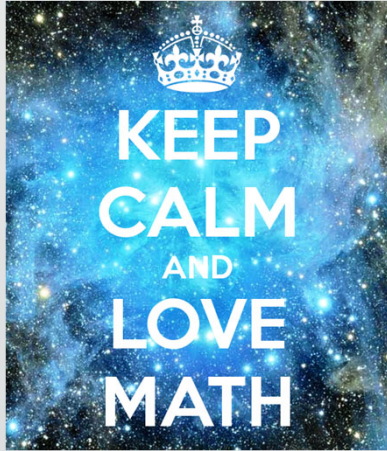


Ways to prove Pythagoras theorem

You can use squares to work the Pythagoras theorem

- 1) Draw 4 congruent right-angled triangles. Congruent triangles are triangles that have three identical sides.
- 2) Then arrange the triangles so they form a square with side $a+b$.
- 3) Next rearrange the same 4 triangles so that they form two equal rectangles inside a larger square.
- 4) After recognise that the area that is not formed by the 4 triangles are equal to both arrangements.
- 5) Finally set both of the areas of each arrangement equal to each other.





The End!

