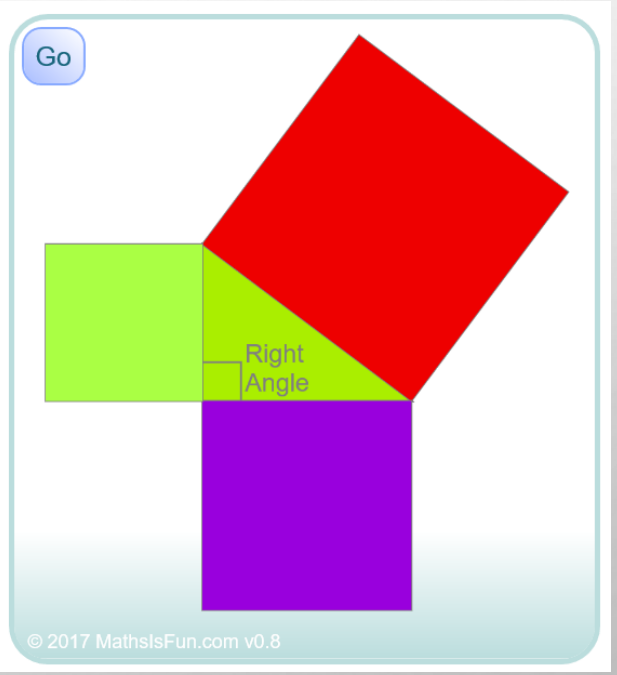
To understand how to use Pythagoras' Theorem.

Who was Pythagoras?

Pythagoras was a classical Greek mathematician and philosopher who was born in 570BC on the island of Samos.

At this time mathematicians was in its early stages. Pythagoras made an interesting discovery.

When a triangle has an angle of 90 degrees (right-angled triangles), and squares are made on each of the three sides, then the largest square has the exact same area of the two smaller squares put together.

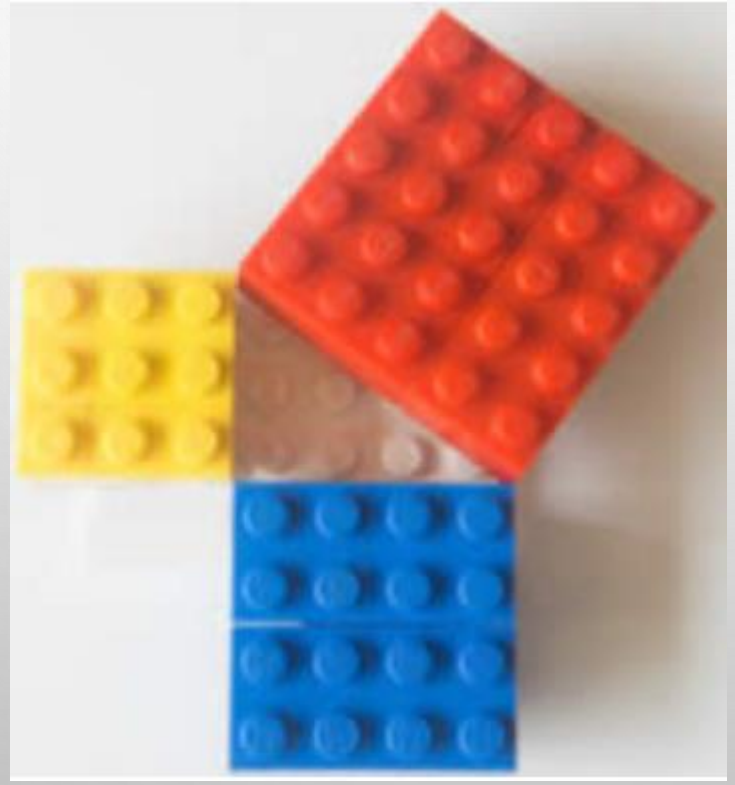


Lego Proof

When a triangle has an angle of 90 degrees (right-angled triangles), and squares are made on each of the three sides, then the largest square has the exact same area of the two smaller squares put together.

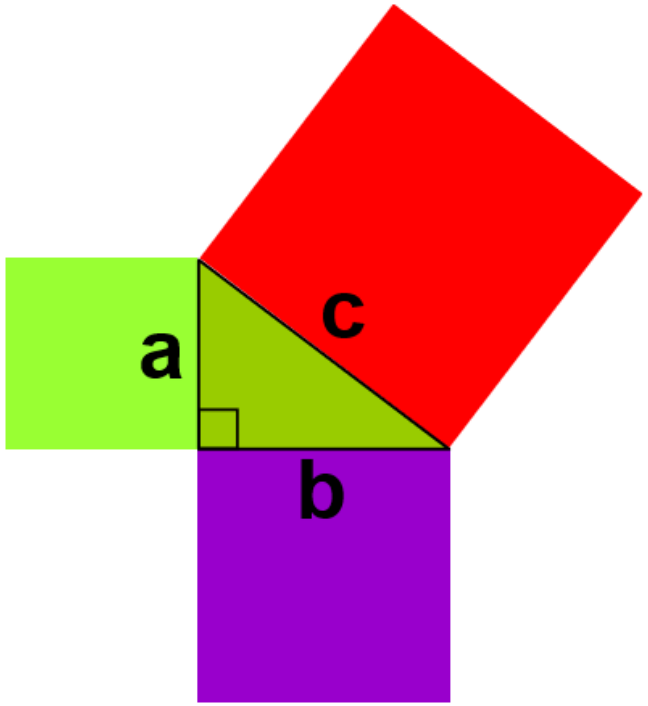
9 + 16 = 25

Yellow has 9 squares



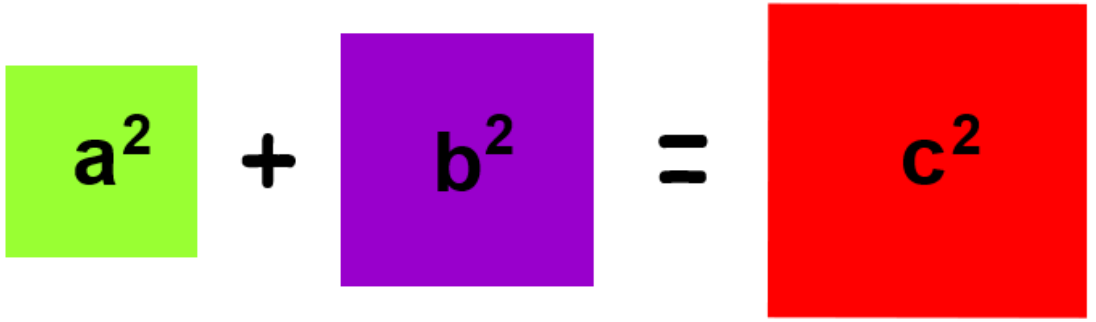
Red has 25 squares

Blue has 16 squares

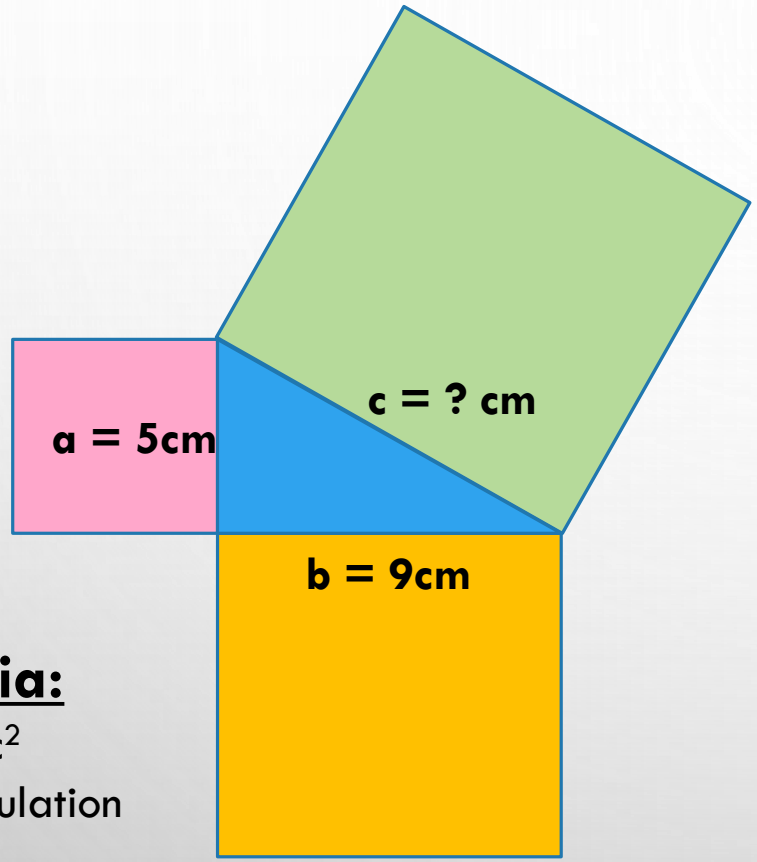


It is called "Pythagoras' Theorem" and can be written in one short equation:

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



Another example:



Our formula: $a^2 + b^2 = c^2$

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$5cm^2 + 9cm^2 = c^2$

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$25cm^2 + 81cm^2 = 106cm^2$

This gives us the area of the green square.

To find the length of the side you would find the square root of 106.
This will be challenging without a calculator so we can write is as $\sqrt{106}$.

Success Criteria:

- ✓ Use $a^2 + b^2 = c^2$
- ✓ Check your calculation
- ✓ BODMAS
- ✓ Units of measure
- ✓ If you cannot find the square root display your answer as $\sqrt{106}$.