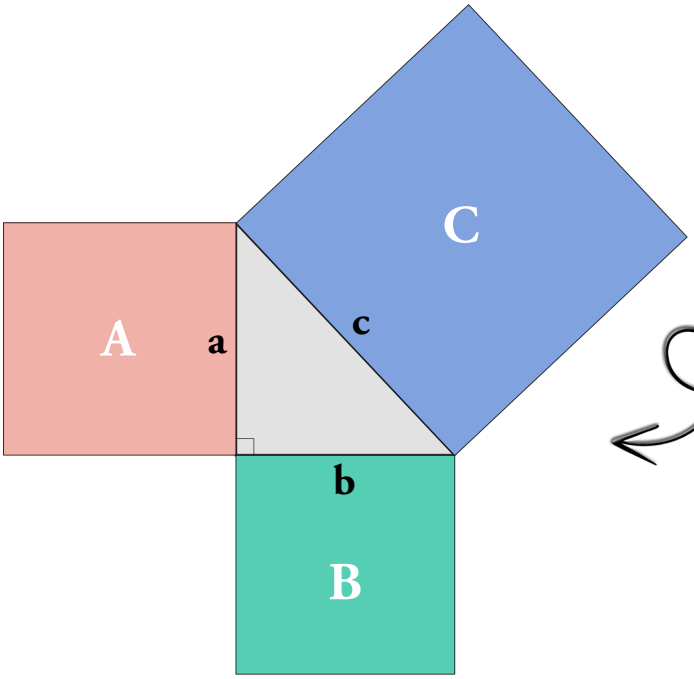
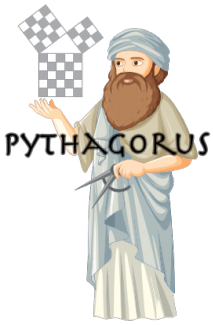
PYTHAGOREAN THEOREM

The Area of Squares



Consider three squares corresponding to the three sides of a right triangle abc... The area of the square corresponding to the hypotenuse is equal to the sum of area of the squares corresponding to the other two sides.



a^2 + b^2 = c^2

Square A (Perpendicular) + Square B (Base) = Square C (Hypotenuse)

Area of Square "A" + Area of Square "B" = Area of Square "C"

Area of Square A = a x a = a^2

Area of Square B = b x b = b^2

Area of Square C = c x c = c^2

To use this theorem, remember the formula $a^2 + b^2 = c^2$

Where a, b and c are the sides of the right triangle.

Example: For a right triangle with a base of 3cm and a height of 4cm, find the length of the hypotenuse.

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

$3^2 + 4^2 = c^2$

$9 + 16 = c^2$

$25 = c^2$

$\sqrt{25} = c$

$5 = c$

Therefore, the third side is 5 cm.