

Geometric Proof for Pythagoras' Theorem

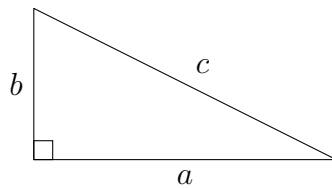
You might be familiar with Pythagoras' theorem for right angled triangles. where for a right angled triangle with sides a , b , and c , where c is the hypotenuse we know that

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

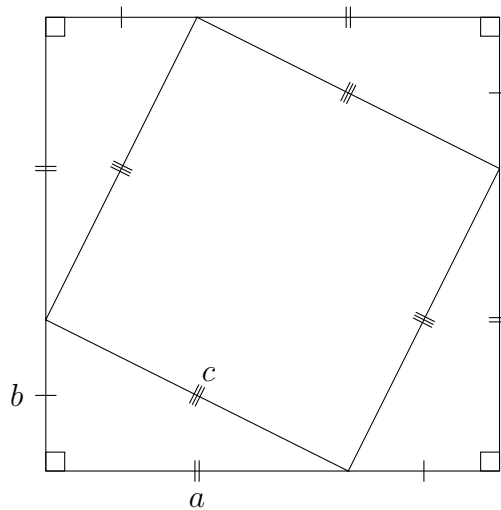
But can we be convinced that this is in fact true?

Setup

First let there be a generic right angled triangle with side lengths a , b , and c with c as the hypotenuse.



From this four of these triangles we can construct a square.



Each side of this square is the $a + b$, this means that the area of the square is given by $(a + b)^2$.