

# On the Solution of Pythagoras' Theorem<sup>1</sup>

LETTER TO THE EDITOR

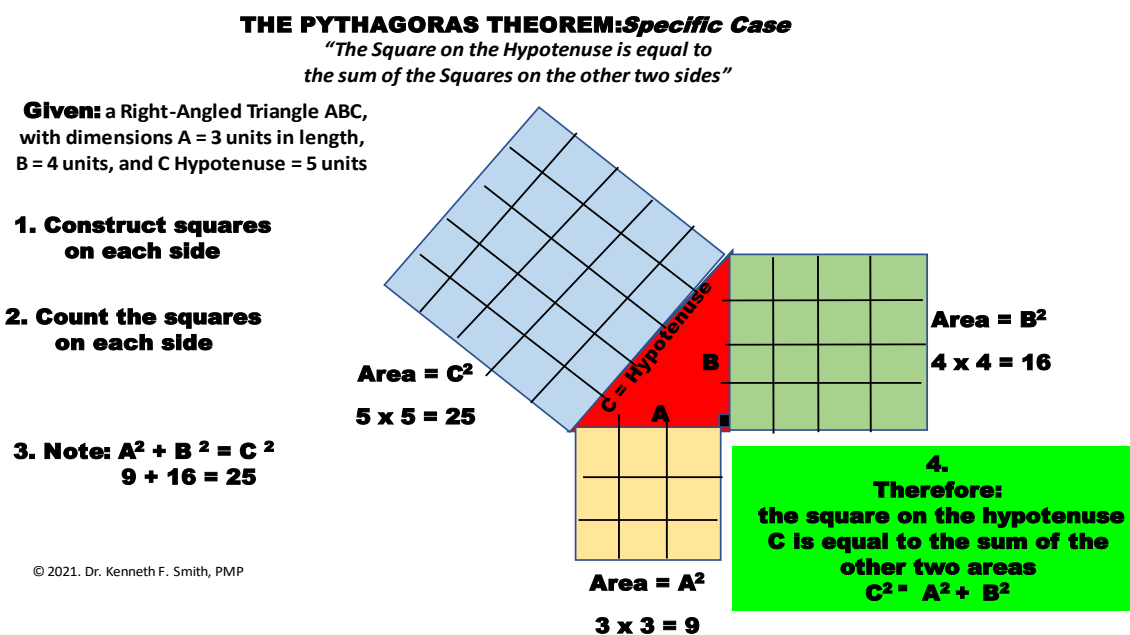
20 November 2021

Ref: Smith, K.F. (2021). **Musings on Management of the Planning Kind: The 'Learning Curve' Conundrum**; Commentary, *PM World Journal*, Vol. X, Issue XI, November. Available online at <https://peworldlibrary.net/wp-content/uploads/2021/11/pmwj111-Nov2021-Smith-the-Learning-Curve-Conundrum.pdf>

Dear Editor,

In response to my article on the **Learning Curve** in November's PMWJ questioning the general applicability of **Wright's Law**, I received several tangential inquiries regarding my having solved **Pythagoras' theorem**. While accepting the specific '3-4-5 unit' case proof of  $a^2 + b^2 = c^2$ , *they were similarly quizzical about its general validity*. So for those – *and any other* – questioning readers I've outlined the proof in a two-slide power-point presentation -- illustrated below, but best appreciated in an animated 'step-by-step' construction and explanation.

**FIGURE 1**



<sup>1</sup> How to cite this work: Smith, K.F. (2021). On the Solution of Pythagoras' Theorem, Letter to the Editor, *PM World Journal*, Vol. X, Issue XII, December.

**FIGURE 2**

**PROVING THE PYTHAGORAS THEOREM: General Case**  
*"The Square on the Hypotenuse is equal to the sum of the Squares on the other two sides"*

**Given:**  
 A Right-Angled Triangle ABC of indefinite size

1. Make 3 congruent Triangles, and form a Square with their Hypotenuses
2. Then make a second Square equal in area to the larger Square  $AB^2$
3. Next, **Rearrange:** Insert the four triangles from the first Square inside the second Square.  
*This will leave the remaining spaces as areas for A & B Squares*
4. As both large squares  $AB^2$  are the *Same Size*, their areas are also the same .

**5. Therefore the sum of the two areas  $A^2 + B^2$  must =  $C^2$   
 Thus the Square on the Hypotenuse  $C^2 = A^2 + B^2$**

= Area  $B^2$   
 Test: Drag this over Area  $C^2$

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To understand the process a little better, [click here to open a PowerPoint Presentation](#), play the slide show from the start to see the animated version.

Sincerely,  
 Ken Smith  
 Manila, The Philippines