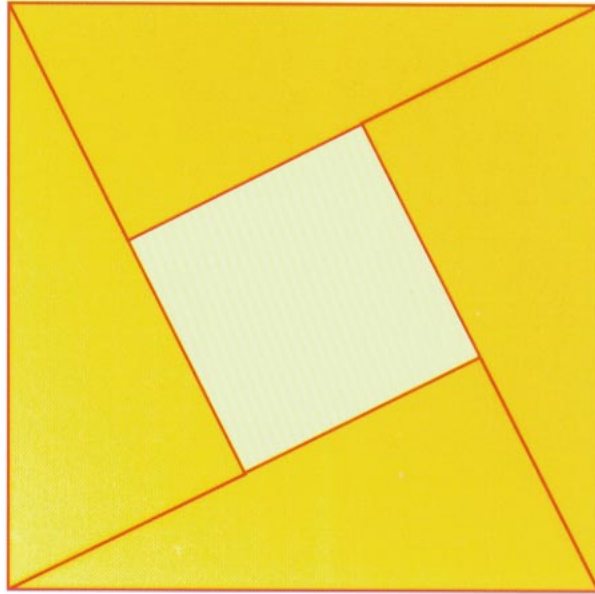


A Square Proof

Problem-of-the-Week

The Problem

The figure below is made of four triangles. Both the outer and inner borders are square. Use the figure to write a proof of the Pythagorean Theorem.



Strategies and Hints

1. Three segments in the problem will be used for the quantities a , b , and c in your proof. Choose the three segments you will use. Use c for the hypotenuse.
2. To write the proof, express the area of the large square as the sum of the areas of five figures.
3. The square “hole” in the figure can be any size greater than zero. The particular size of the square has no effect on the proof. Explain why this is the case.
4. Explain why the proof would not work if the square “hole” had an area of zero as shown at the right.

