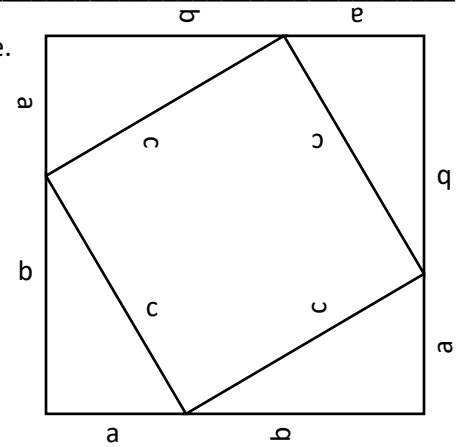
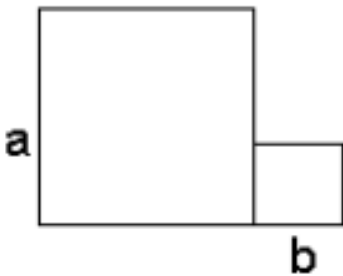


Let's revisit our original triangle, but use four of them to make a different square.

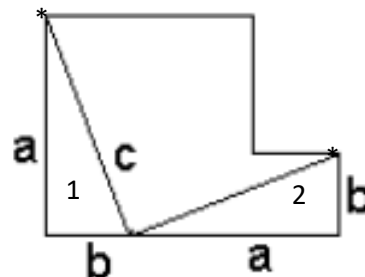
1. Write an expression to represent the side length of the big outer square.
2. Write an expression using the side length from #1 to represent the area of the big outer square.
3. Simplify the expression from #2 using the distributive property.
4. Write an expression for the area of one individual original triangle.
5. Write an expression for the total area of the large square using the four original triangles and the inner square.
6. Set up an equation making the expression from #3 equal to the expression from #5.
7. Use some algebra to manipulate the equation in #6 so you prove the Pythagorean Theorem.



8. The larger square has side length a and the smaller square has side length b . Write an expression for the total area of this figure:



9. Two triangles are drawn in the figure from the left. Rotate triangle #1 90 degrees counter clockwise using the top vertex* as the center of rotation. Rotate triangle #2 90 degrees clockwise using the * as the center of rotation. Use tracing paper and be accurate.



10. Explain how your final figure in #9 proves the Pythagorean Theorem.