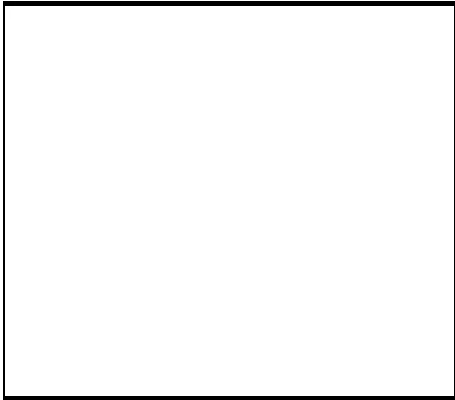## Math 371
Pythagorean Theorem Activity

I. For this activity you will work with **four** congruent right triangles and three squares, one for each side of the triangle. Suppose that the triangle sides have length *a, b,* and *c*. (The hypotenuse has length *c*.)

   A. Use the four triangles and the two smaller squares to make a single square.
What is the length of one side of this square? Ans._____

Record below the pattern you use in the square labeled A.

   B. Use the four triangles and the largest square to make a single square.
What is the length of one side of this square? Ans._____

Record the pattern you use below in the square labeled B.

**A**   **B**

II. For this activity you will work with **two** congruent right triangles and the same three squares, one for each side of the triangle.

A. Use two triangles and the two smaller squares to make a single pentagon. Record below the pattern you use on the pentagon labeled A.
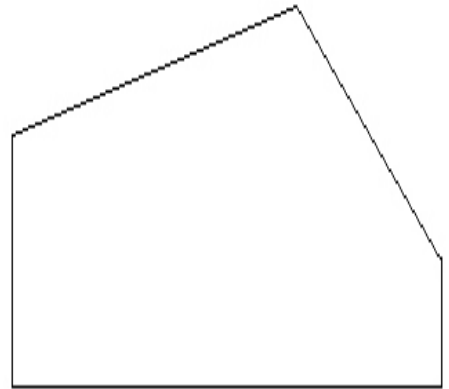
What are the lengths of the sides of the pentagon? Ans._____

B. Use two triangles and the largest square to make a single pentagon. Record below the pattern you use on the pentagon labeled B.

What are the lengths of the sides of the pentagon? Ans._____
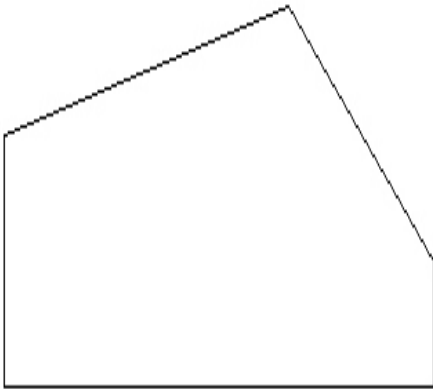
A   B

III. Using either Activity I or II, write an explanation of why this activity shows that the largest square has the same area as the area of the two smaller squares combined.