

In this investigation, you will look for a relationship among the areas of squares drawn on the sides of right triangles. Each leg of the right triangle on the left below has a length of 1 unit. Suppose you draw squares on the hypotenuse and legs of the triangle, as shown on the right. How are the areas of the three squares related?



For each row of the table below:

1. Draw a right triangle with the given leg lengths on dot paper. (on the back)
2. Draw a square on each side of the triangle.
3. Find the areas of the squares and record the results in the table.

Length of Leg 1 (units)	Length of Leg 2 (units)	Area of Square on Leg 1 (square units)	Area of Square on Leg 2 (square units)	Area of Square on Hypotenuse (square units)
1	1	1	1	2
1	2			
2	2			
1	3			
2	3			
3	3			
3	4			

4. Look for a relationship among the areas of the three squares. Make a conjecture about the areas of squares drawn on the sides of any right triangle.

5. Draw a right triangle on the dot paper with side lengths that are different than those given in the table. Use your triangle to test your conjecture from question 4.

6. Find the length of the missing side:



