

**LESSON**  
**5-7**

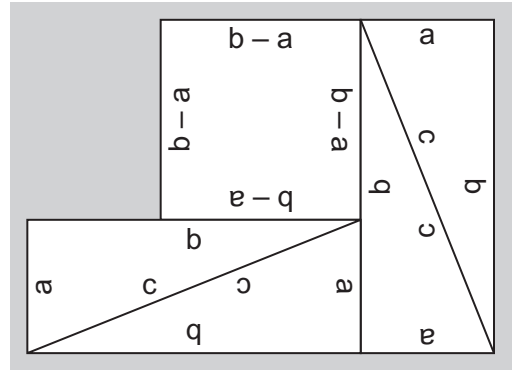
**Geometry Lab Recording Sheet** p. 347

**Hands-On Proof of the Pythagorean Theorem**

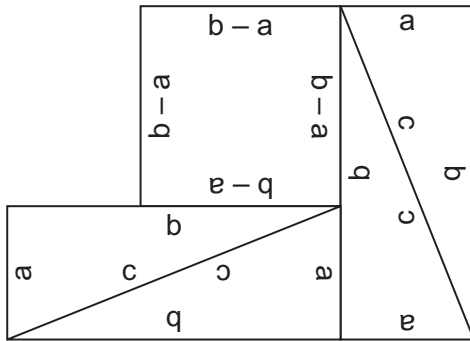
**Try This**

**Activity 1**

1. Draw a large scalene right triangle on graph paper. Draw three copies of the triangle. On each triangle, label the shorter leg  $a$ , the longer leg  $b$ , and the hypotenuse  $c$ .
2. Draw a square with side length  $b - a$ . Label each side of the square.
3. Cut out the five figures. Arrange them to make the composite figure shown at right.



4. You can think of this composite figure as being made of the two squares outlined in red. What are the side length and area of the small red square? \_\_\_\_\_ of the large red square? \_\_\_\_\_



5. Use your results from Step 4 to write an algebraic expression for the area of the composite figure.

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**Geometry Lab Recording Sheet** p. 347

**Hands-On Proof of the Pythagorean Theorem** continued

6. Now rearrange the five figures to make a single square with side length  $c$ . Write an algebraic expression for the area of this square.

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**Try This**

1. Since the composite figure and the square with side length  $c$  are made of the same five shapes, their areas are equal.

Production insert display from page 347 geometry  
chapter 5 lesson 7 ACTIVITY question 2

ED: Please supply sketch

Write and simplify an equation to represent this relationship.

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What conclusion can you make?

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2. Draw a scalene right angle with different side lengths. Repeat the activity

Write and simplify an equation to represent this relationship.

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Do you reach the same conclusion?

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