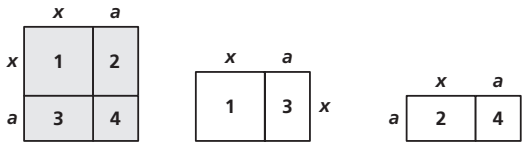
Name

13-8B Lesson Master

Questions on SPUR Objectives
See pages 833–835 for objectives.

REPRESENTATIONS Objective H

1. The four regions in the shaded diagram on the left can be manipulated to form the regions on the right. What property is pictured?



_____

In 2 and 3, the dimensions of a square are given. Then the square is altered to create a new rectangle.

a. What is the area of the new rectangle?

b. What is the difference in the area of the square and the area of the rectangle?

c. *True or false*?

2. A square has a side length of 10 inches. Suppose the length is decreased by 4 inches and the width is increased by 4 inches.

a. _____

b. _____

c. $10^2 - 4^2 = (10 - 4)(10 + 4)$ _____

3. A square has a side length of 1 inch. Suppose the length is increased by 0.5 inches and the width is increased by 0.5 inches.

a. _____

b. _____

c. $1^2 + 0.5^2 = (1 + 0.5)(1 + 0.5)$ _____

4. Refer to President Garfield's proof of the Pythagorean Theorem on page 824. Let $a = 8$ and $b = 15$.

a. Find the area of trapezoid $PQST$. _____

b. What is the area of $\triangle RQS$? _____

c. Use the area from Part b to find c. _____

d. Use the Pythagorean Theorem to find the value of c in $\triangle PQR$. _____

e. Does the value of c in Part c agree with the value of c in Part d? _____

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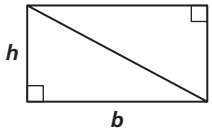
5. Use the diagram below to show that the area of a rectangle is bh.



6. Use the diagram below to show that the area of a trapezoid is $\frac{1}{2}h(a + b)$.