

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## 3.1 Squares and Square Roots

MathLinks 8, pages 80–87

### Key Ideas Review

Write the term from column B that matches the correct statement in column A.

A	B
1. A whole number that has only two factors, 1 and itself. _____	a) Prime factorization
2. The product of the same two numbers. _____	b) Square number
3. The number that equals a given value when you multiply the number by itself. _____	c) Perfect square
4. The product of the same two factors. _____	d) Prime number
5. A number written as the product of its prime factors. _____	e) Square root

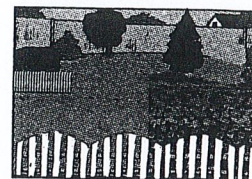
### Practise and Apply

6. a) Determine the prime factorization of 36. Show your work.

b) Is 36 a perfect square? Explain your thinking.

c) Draw a quadrilateral that shows whether or not 36 is a perfect square. Label its side lengths.

7. Janie's backyard has an area of  $100 \text{ m}^2$ .



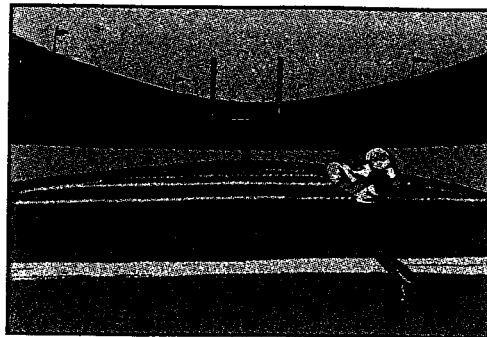
a) Determine the prime factorization of 100. Show your work.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

b) Is 100 a perfect square? Explain your thinking.

9. Alasie's local football field has an area of  $1296 \text{ m}^2$ . Is 1296 a perfect square? Show your thinking.



c) Draw a quadrilateral that shows whether or not 100 is a perfect square. Label its side lengths.

8. Write the prime factorization of each number. Circle the perfect squares.

a) 164

b) 196

10. Ingrid says that she knows that 9 and 16 are perfect squares, and that 10 is not. Is she correct? Explain your thinking.

c) 225

d) 325



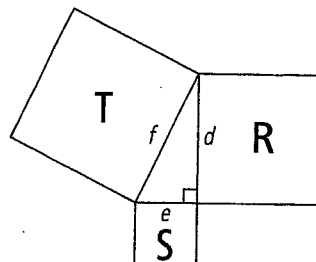
# Exploring the Pythagorean Relationship

MathLinks 8, pages 88–94

## Key Ideas Review

Use the diagram below to complete #1.

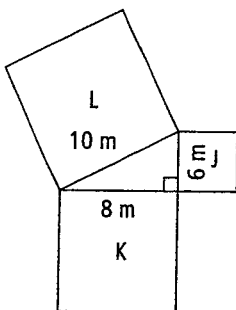
1. a) Write an addition statement to show the relationship of the squares.



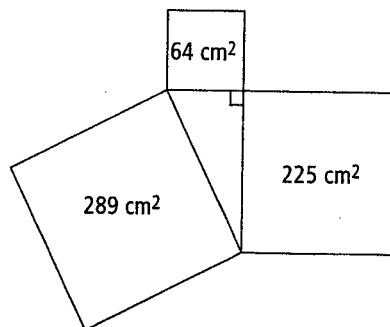
- b) Use words to describe the relationship of the squares.

## Practise and Apply

2. a) What are the areas of the squares in the diagram? Show your work.



3. a) Complete the table using information provided in the diagram below.



Area of Square	Side Length of Square

- b) Write two addition statements to show the relationship between the squares.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

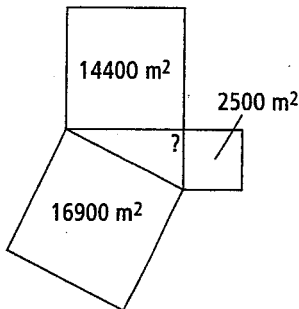
b) Show the relationship of the squares.

4. The sides of a right triangle measure 15 cm, 20 cm, and 25 cm.

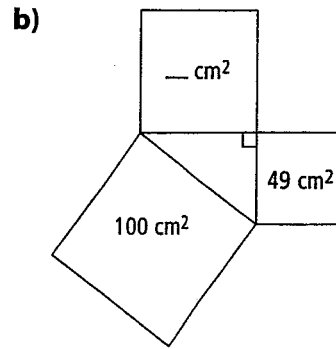
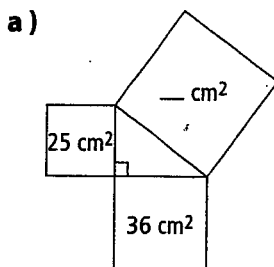
a) What is the area of each square?  
Show your work.

b) Show the relationship of the squares.

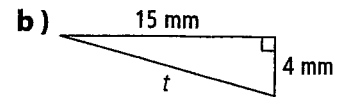
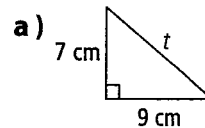
5. Is the triangle below a right triangle? Explain your reasoning.



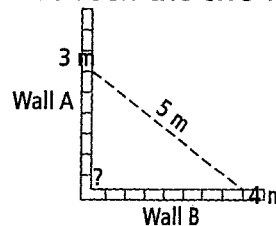
6. Use the Pythagorean relationship to find the unknown area of the squares in the following diagrams. Show your work.



7. What is the area of the square on side  $t$  of each triangle? Show your work.



8. Jeremy wants to make sure that the walls he is building are at right angles to each other. He measures 3 m along Wall A, and 4 m along Wall B. The distance between the two marks is 5 m.



Are the walls at right angles to each other? Explain how you know.