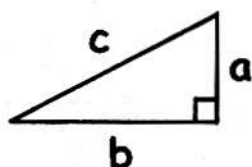


# 4-19 Using the Pythagorean Theorem

Match the length of the missing leg or hypotenuse of each triangle with its measure given in the box. (**Note:**  $a$  and  $b$  represent the lengths of the legs;  $c$  represents the length of the hypotenuse.) Write your answers and their corresponding letters on the blanks. Then write the letters above the problem numbers to complete the statement at the end of this activity. The first problem is done for you.

*Example of a Right Triangle*



5—O	16—L	25—R
8—A	20—D	34—G
11—E	21—I	40—S
15—T	24—H	45—N

1.  $a = \underline{8}$     $b = 15$     $c = 17$   
         A  

7.  $a = \underline{\quad}$     $b = 28$     $c = 35$   
                 

2.  $a = 10$     $b = \underline{\quad}$     $c = 26$   
                 

8.  $a = 24$     $b = \underline{\quad}$     $c = 51$   
                 

3.  $a = \underline{\quad}$     $b = 48$     $c = 52$   
                 

9.  $a = 12$     $b = \underline{\quad}$     $c = 20$   
                 

4.  $a = 9$     $b = 12$     $c = \underline{\quad}$   
                 

10.  $a = \underline{\quad}$     $b = 60$     $c = 61$   
                 

5.  $a = 7$     $b = 24$     $c = \underline{\quad}$   
                 

11.  $a = 3$     $b = 4$     $c = \underline{\quad}$   
                 

6.  $a = 9$     $b = \underline{\quad}$     $c = 41$   
                 

12.  $a = 16$     $b = 30$     $c = \underline{\quad}$   
                 

The word *hypotenuse* is taken from the Greek words *hypo* and *teinein*, meaning to “stretch under.” It was used by Pythagoras to describe the relationship of the legs of a right

$\frac{4}{9}$     $\frac{5}{11}$     $\frac{7}{8}$     $\frac{A}{1}$     $\frac{8}{12}$     $\frac{9}{6}$     $\frac{10}{4}$     $\frac{4}{6}$     $\frac{11}{7}$     $\frac{4}{3}$     $\frac{2}{10}$