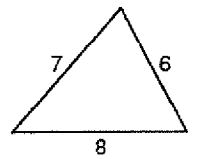


...last conjecture is known as the Pythagorean Theorem, named after Pythagoras, a Greek philosopher who demonstrated that it is true. Recall that a theorem is a statement that has been proved. While you have discovered the relationship between the lengths of the sides of a right triangle, you have not actually proved it. Rather than calling Conjecture 61 the Pythagorean Conjecture, however, we will call it the Pythagorean Theorem because it is well known by that name.

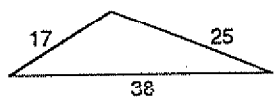
The Pythagorean Theorem works for right triangles, perhaps it works for all triangles. A quick check demonstrates that it doesn't hold for other triangles.

Acute Triangle



$$6^2 + 7^2 > 8^2$$

Obtuse Triangle

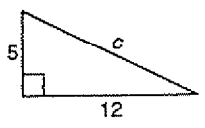


$$17^2 + 25^2 < 38^2$$

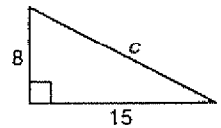
### EXERCISE SET

Use the Pythagorean Theorem to find each missing length.

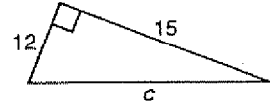
1.\*  $c = \text{---}$



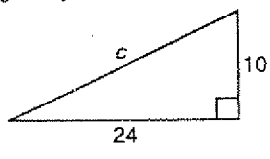
2.  $c = \text{---}$



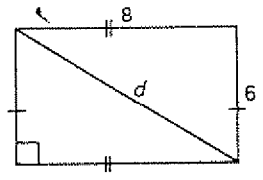
3.  $c = \text{---}$



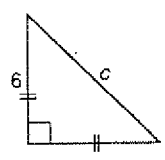
4.  $c = \text{---}$



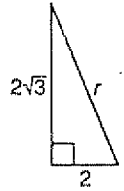
5.  $d = \text{---}$



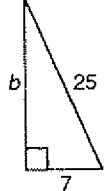
6.\*  $c = \text{---}$



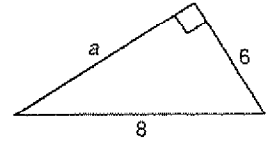
7.  $r = \text{---}$



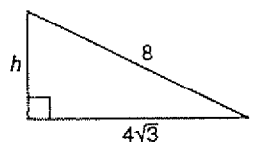
8.\*  $b = \text{---}$



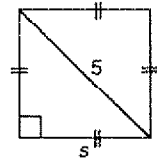
9.  $a = \text{---}$



10.  $h = \text{---}$



11.\*  $s = \text{---}$



12.\*  $x = \text{---}$

