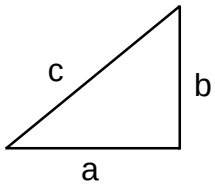
Math Study Strategies

Pythagorean Triples



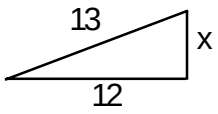
$c^2 = a^2 + b^2$

A set of three integers that can be the lengths of the sides of a right triangle is called a **Pythagorean triple.** The simplest Pythagorean triple is the set "3, 4, 5." These numbers are the lengths of the sides of a "3-4-5" Pythagorean right triangle. The list below contains all of the Pythagorean triples in which no number is greater than 50.

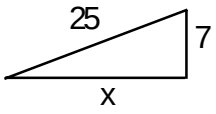
3, 4, 5	14, 48, 50
5, 12, 13	15, 20, 25
6, 8, 10	15, 36, 39
7, 24, 25	16, 30, 34
8, 15, 17	18, 24, 30
9, 12, 15	20, 21, 29
9, 40, 41	21, 28, 35
10, 24, 26	24, 32, 40
12, 16, 20	27, 36, 45
12, 35, 37	30, 40, 50

Example Problems

Find the length of the missing side.



From the list above, the missing side is "5"



From the list above, the missing side is "24"

Show why the set "6,8,10" is a Pythagorean triple.

$c^2 = a^2 + b^2$
$10^2 = 8^2 + 6^2$
$100 = 64 + 36$
$100 = 100$

Since the Pythagorean equation is satisfied, the set "6,8,10" is a Pythagorean triple.