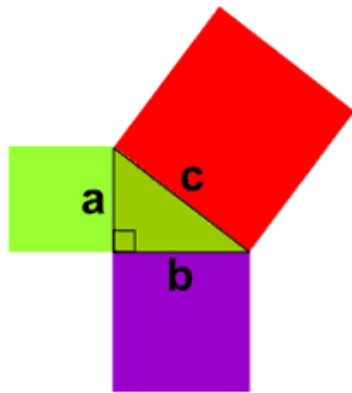


The Pythagorean Theorem

Equation:



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

Note:

- **c** is the **longest side** of the triangle
- **a** and **b** are the other two sides

Oct 31-9:34 AM

?

Pythagorean theorem

SMART
Technologies

You should notice that a^2 plus b^2 is the same as c^2 . If you know the length of two sides of a triangle, you can figure out the length of the third side.

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

$$b^2 = c^2 - a^2$$

$$a^2 = c^2 - b^2$$

Nov 28-8:21 AM

Investigate



A ladder is 6.1 m long.

The distance from the base of the ladder to the wall is 1.5 m.

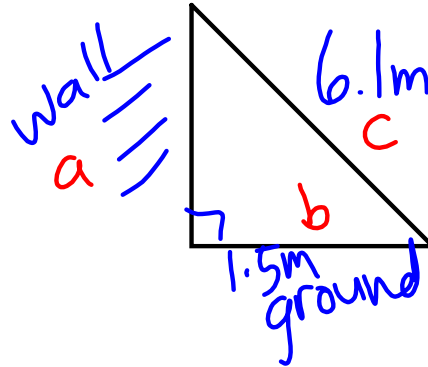
Estimate how far up the wall the ladder will reach.

$$a^2 = c^2 - b^2$$

$$a^2 = (6.1)^2 - (1.5)^2$$

$$a^2 = 34.96$$

$$a = \sqrt{34.96} = 5.9 \text{ m}$$



1.2 Square Roots of Non-Perfect Squares

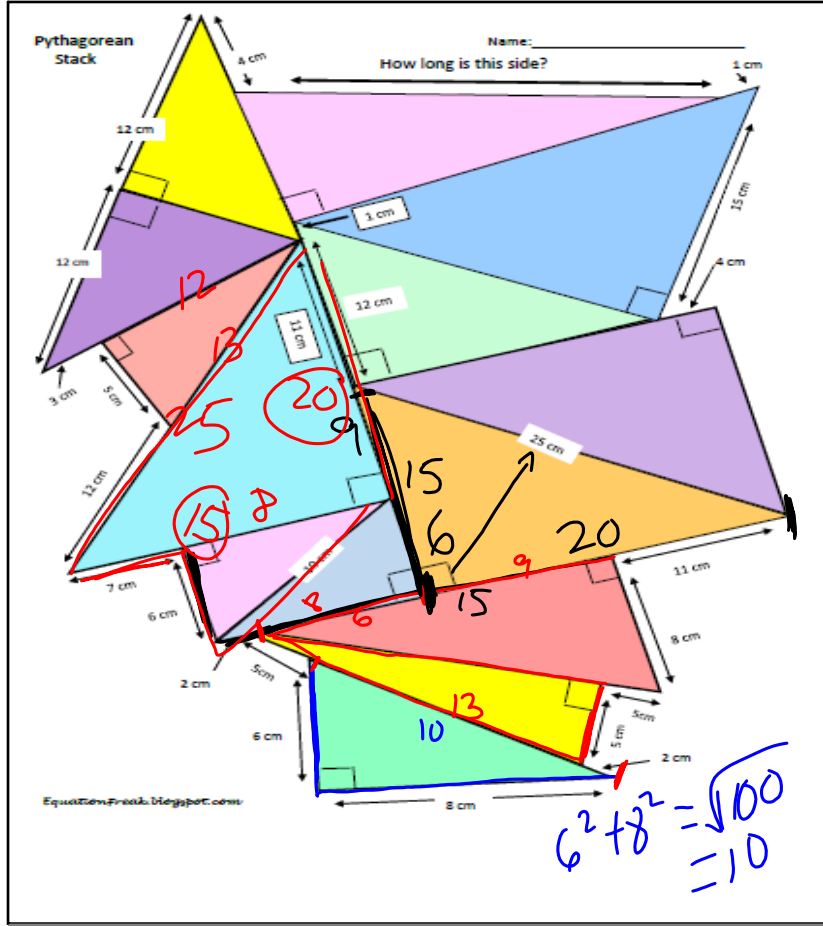
Investigate

Is the triangle formed in the middle with side lengths 9cm-12cm-15cm a right triangle? Prove that the triangle formed is a right triangle.

$$9^2 + 12^2 = 15^2 ?$$

$$81 + 144 = 15^2$$

$$225 = 225$$



Apr 29-2:49 PM