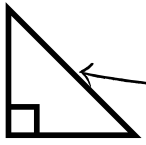


PYTHAGOREAN THEOREM

The PYTHAGOREAN THEOREM shows the relationship between the legs (shorter lengths) and the hypotenuse (longest side) of a right triangle.

A Right triangle has one angle that is 90 degrees. Take a look at the right triangles below to make sure you understand the different sides.



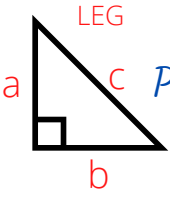
This is a right angle triangle.

One angle equals 90 degree, it is shown by a small square



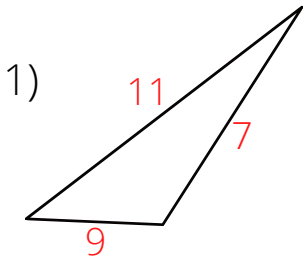
HYPOTENUSE

Its always opposite the right angle, its always the longest side



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

USE THE PYTHAGOREAN THEOREM TO SHOW IF THE TRIANGLE IS A RIGHT ANGLE TRIANGLE



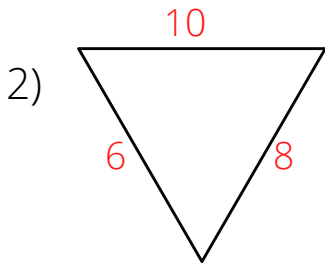
$$a^2 + b^2 = c^2$$
$$7^2 + 9^2 = 11^2$$

$$(7 \times 7) + (9 \times 9) = (11 \times 11)$$

$$49 + 81 = 121$$

$$130 \neq 121$$

This is not right triangle

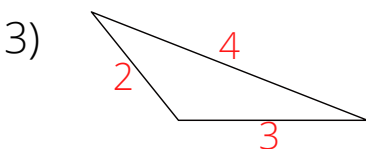


$$a^2 + b^2 = c^2$$
$$6^2 + 8^2 = 10^2$$

$$36 + 64 = 100$$

$$100 = 100$$

This is right triangle



$$a^2 + b^2 = c^2$$
$$2^2 + 3^2 = 4^2$$

$$4 + 9 = 16$$

$$13 \neq 16$$

This is not right triangle