

Pythagorean Theorem

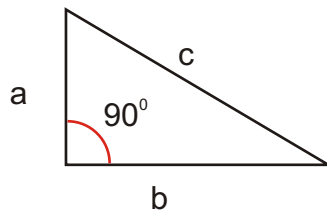
The Pythagorean theorem and its converse show the relationship between the legs of a right triangle and the hypotenuse of a right triangle. This relationship only applies to right triangles.

Pythagorean Theorem

IF **the triangle is a right triangle** THEN $a^2 + b^2 = c^2$.

(If the triangle is a right triangle then the sum of the squares of the lengths of the legs is equal to the square of the length of the hypotenuse)

This is a **right triangle**, therefore $a^2 + b^2 = c^2$



Converse of the Pythagorean

IF $a^2 + b^2 = c^2$ THEN **the triangle is a right triangle**.

(If the sum of the squares of the lengths of the legs is equal to the square of the length of the hypotenuse then the triangle is a right triangle.)

$a^2 + b^2 = c^2$, therefore this is a **right triangle**.

