# INTRODUCTION – PYTHAGOREAN THEOREM

PYTHAGOREAN THEOREM – DEFINITION

The Pythagoras theorem states that the square of the length of the hypotenuse is equal to the sum of squares of the lengths of the other two sides of the right-angled triangle. The Pythagoras theorem, also known as Pythagorean theorem is used to find the sides of a right-angled triangle.
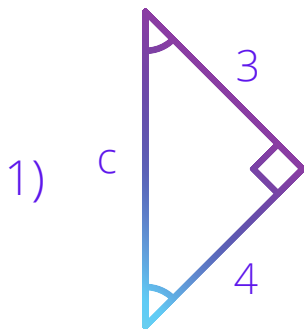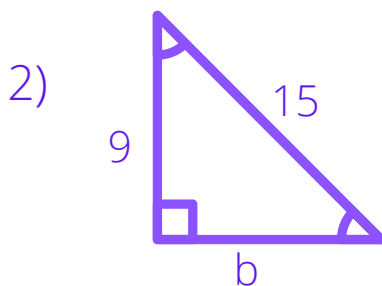
PYTHAGOREAN THEOREM --> $a^2 + b^2 = c^2$

EXAMPLE

$$a^2 + b^2 = c^2$$
$$8^2 + 6^2 = c^2$$
$$(8 \times 8) + (6 \times 6) = c^2$$
$$64 + 36 = c^2$$
$$100 = c^2$$
$$10 = c$$

SOLVE:

1)
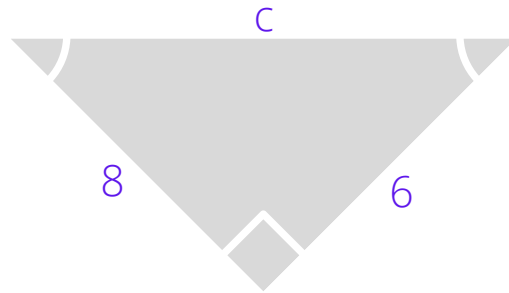
$$3^2 + 4^2 = C^2$$
$$9 + 16 = C^2$$
$$25 = C^2$$
$$5 = C$$

2)

$$9^2 + b^2 = 15^2$$
$$81 + b^2 = 225$$
$$b^2 = 225 - 81$$
$$b^2 = 144$$
$$b = 12$$

3)
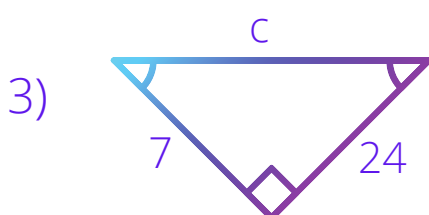
$$7^2 + 24^2 = C^2$$
$$49 + 576 = C^2$$
$$625 = C^2$$
$$25 = C$$