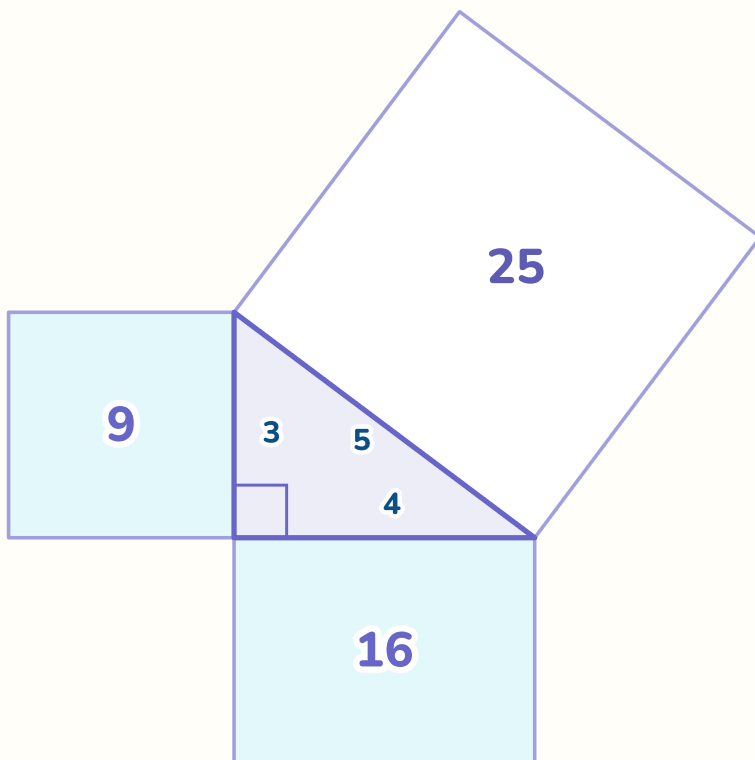


The Pythagorean theorem



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

The square on the longest side, c , equals the two smaller squares added together. That is the whole theorem — and the picture is the proof.

Find the long side

$$c = \sqrt{a^2 + b^2}$$

$$\sqrt{6^2 + 8^2} = \sqrt{100} = 10$$

Find a short side

$$a = \sqrt{c^2 - b^2}$$

$$\sqrt{13^2 - 5^2} = \sqrt{144} = 12$$

Triples worth knowing

3, 4, 5 • 5, 12, 13 •

8, 15, 17

and any multiple, like 6, 8,
10

Right triangles only. The hypotenuse c is the longest side, and it always sits opposite the right angle.