

Lesson 1 Assessment

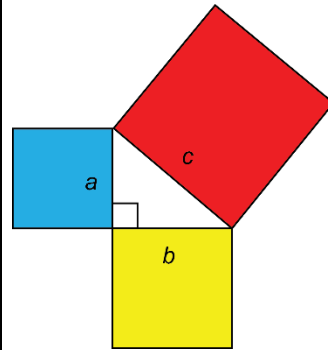
Exploring the Pythagorean Theorem

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Identifies hypotenuse of a right triangle

The hypotenuse is the longest side of a right triangle and is opposite the 90° angle.

Describes the Pythagorean theorem



$a^2 + b^2 = c^2$
 In a right triangle, the sum of the areas of the two smaller squares equals the area of the larger square.

Uses the Pythagorean theorem to identify a right triangle

Do the lengths 3 cm, 4 cm, and 5 cm form a right triangle?

The numbers 3, 4, 5 are a Pythagorean triple. Since Pythagorean triples satisfy the Pythagorean theorem, these lengths form a right triangle.

$$3^2 + 4^2 = 9 + 16 = 25, \text{ which is } 5^2$$

Applies the Pythagorean theorem to determine the length of the hypotenuse

A top of a slide is 6 m above the ground and the base of the slide is 4.5 m along the ground. How long is the slide?

The length of the slide represents the hypotenuse of a right triangle. I can use the Pythagorean theorem.

$$\begin{aligned} a^2 + b^2 &= c^2 \\ 6^2 + 4.5^2 &= c^2 \\ 36 + 20.25 &= c^2 \\ c^2 &= 56.25 \\ c &= \sqrt{56.25} \\ c &= 7.5 \end{aligned}$$

The slide is 7.5 m long.

Observations/Documentation