Pythagoras: identify the sides and calculate lengths

Year 8, lower volume • text pp. 13–18 • textbook lessons 7–9 • 1/2

Name: _____ Class: _____ Date: _____

Worked example 1

A right triangle has legs 5 cm and 12 cm. Find its hypotenuse.



Geometry diagram; not drawn to scale except for construction tasks.

Guided attempt 2

A right triangle has hypotenuse 10 cm and one leg 6 cm. Find the other leg.

1. Let the missing leg be b: $b^2 + 6^2 = 10^2$.
2. $b^2 = 100 - 36 = \square$.
3. Positive length: $b = \sqrt{\square} = \square$ cm.

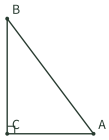
Prerequisite 3

Calculate $3^2 + 4^2$.

$$3^2 + 4^2$$

Prerequisite 4

In the diagram, $\angle$C is a right angle. Which side is the hypotenuse?



Geometry diagram; not drawn to scale except for construction tasks.

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Independent practice 5

A right triangle has legs 7 cm and 24 cm. Find its hypotenuse.



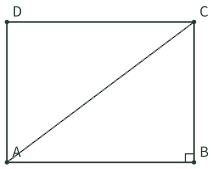
Geometry diagram; not drawn to scale except for construction tasks.

Independent practice 6

A right triangle has hypotenuse 17 cm and one leg 8 cm. Find the other leg.

Independent practice 7

A rectangle has adjacent sides 6 cm and 8 cm. Find its diagonal, naming the right triangle used.



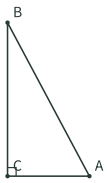
Geometry diagram; not drawn to scale except for construction tasks.

Independent practice 8

A 13 m ladder leans against a vertical wall. Its foot is 5 m from the wall on level ground. Find the height reached.

Exit question 9

A right triangle has legs 8 cm and 15 cm. Find its hypotenuse.



Geometry diagram; not drawn to scale except for construction tasks.

Exit question 10

A right triangle has hypotenuse 25 cm and one leg 7 cm. Find the other leg.