Pythagoras converse: conditions and combined problems

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Name: _____ Class: _____ Date: _____

Worked example 1

Can sides 13, 5, 12 cm form a right triangle? Check existence and identify the longest side first.

Guided attempt 2

Can sides 8, 15, 17 cm form a right triangle? Check existence and identify the longest side first.

1. Existence and longest side: $8 + 15 > \square$; longest side = ____.
2. $8^2 + 15^2 = \square$; $17^2 = \square$.
3. The two square values are ____; therefore, by ____, the angle opposite 17 cm is ____.

Prerequisite 3

Can sides 3, 4, 5 cm form a right triangle? Check existence and identify the longest side first.

Prerequisite 4

Can sides 2, 3, 5 cm form a right triangle? Check existence and identify the longest side first.

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Independent practice 5

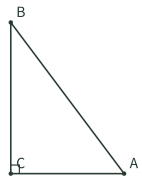
Can sides 5, 12, 14 cm form a right triangle? Check existence and identify the longest side first.

Independent practice 6

Can sides 6, 8, 10 cm form a right triangle? Check existence and identify the longest side first.

Independent practice 7

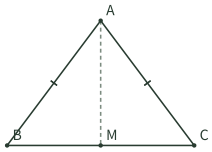
A rectangular panel measures 9 cm by 12 cm. A straight brace joins opposite corners. Find the brace length.



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

Independent practice 8

AB=AC=5 cm and BC=6 cm. M is the midpoint of BC. Find AM and the triangle area, stating why AM is perpendicular to BC.



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

Exit question 9

Can sides 4, 5, 6 cm form a right triangle? Check existence and identify the longest side first.

Exit question 10

Can sides 25, 7, 24 cm form a right triangle? Check existence and identify the longest side first.