

Grade 8 - The Pythagorean Theorem - Test

Common Core 8.G.B.6, 8.G.B.7 · maths-pdf.fr/en/

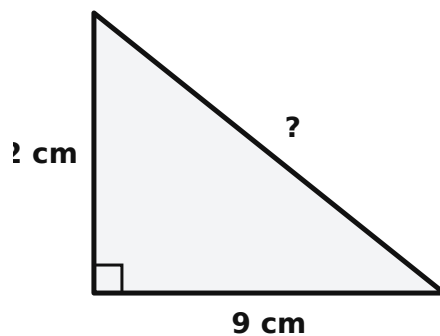
Name: _____ Class: _____ Date: ____/____/____

This 20-point test checks the Pythagorean theorem, its converse and applications in two and three dimensions (Common Core 8.G.B.6 and 8.G.B.7). Work alone, show every step, and write each final answer clearly. You have 45 minutes. Calculators are not needed unless a question says so.

About this test

- Grade: Grade 8
- Chapter: The Pythagorean Theorem
- Standards: 8.G.B.6, 8.G.B.7
- Time: 45 minutes
- Total: 20 points

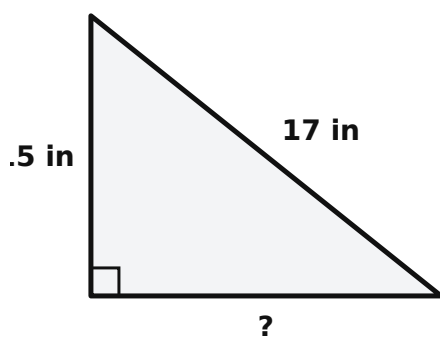
Question 1 - Find the hypotenuse [2 pts]



A right triangle.

Find the hypotenuse.

Question 2 - Find a leg [2 pts]



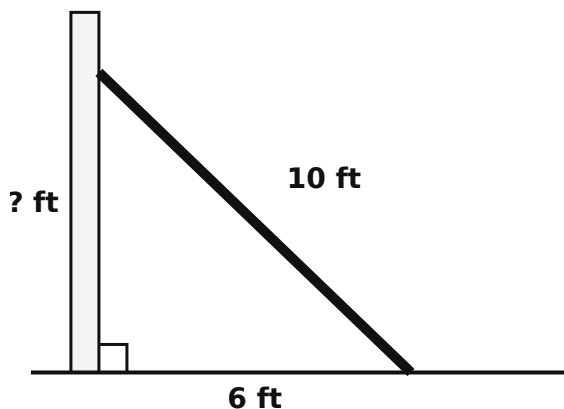
A right triangle.

Find the missing leg of the right triangle (hypotenuse 17 inches, vertical leg 15 inches).

Question 3 - Right triangle? [3 pts]

- Is a triangle with sides 8, 15 and 17 a right triangle? (2 points)
- Is a triangle with sides 6, 9 and 12 a right triangle? (1 point)

Question 4 - Ladder [3 pts]



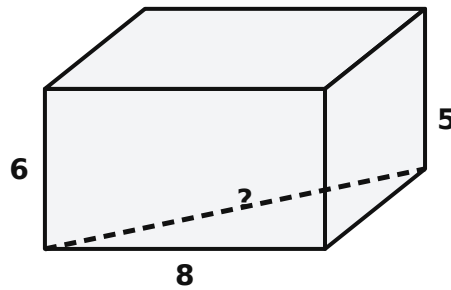
A ladder leaning on a wall.

A 10-foot ladder is placed with its base 6 feet from a wall. How high does it reach?

Question 5 - Estimate a length [3 pts]

A rectangular garden is 14 feet by 6 feet. Find the length of its diagonal to the nearest tenth of a foot. Then find the length of fencing needed to go around the garden.

Question 6 - 3D [3 pts]



A box.

The box has edges 8, 6 and 5. Find the length of the floor diagonal (8 by 5 face) and the length of the space diagonal to the nearest tenth.

Question 7 - Shortcut [2 pts]

A path goes 8 yards east and then 15 yards north along the edges of a school field. A student cuts straight across. How many yards shorter is the diagonal?

Question 8 - Explain [2 pts]

Explain how to tell which side is the hypotenuse and why it is always the longest side.