

Lesson 1: The Pythagorean Theorem

Print this document before starting.

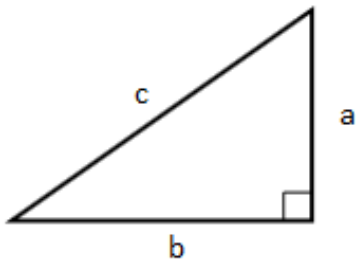
View the [INSTRUCTIONAL VIDEO](#) for this lesson.



Lesson 1: The Pythagorean Theorem

Right Triangle: a triangle with one angle that measures _____.

In a right triangle, there are special names to describe each part.



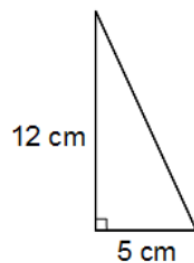
The longest side is called the _____.

- It is always the side opposite of the right angle.

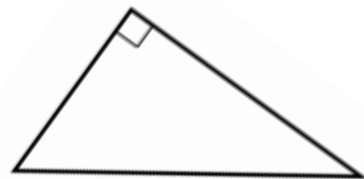
The other two sides are called _____.

Example 1: Label the hypotenuse, and legs in the following right triangles.

a)



b)

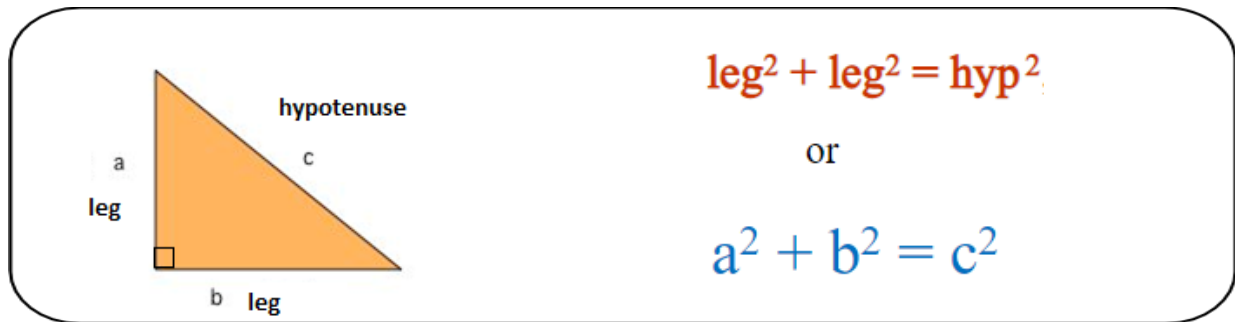


Example 2: Sketch a right triangle with side lengths 3 m, 4 m, and 5 m. Label the legs and the hypotenuse.

Lesson 1: The Pythagorean Theorem

The Pythagorean Theorem can be used to find missing side lengths in **right triangles**.

We can only use the theorem when we know 2 side lengths and are trying to find the third.

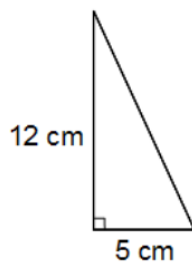


***The HYPOTENUSE is always the side c in the Pythagorean Theorem. ***

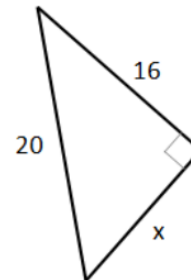
Example:

Determine the length of the missing side for the following triangles

a)



b)



Example: The legs of a right triangle are 24 in and 7 in long. Sketch the triangle and use the Pythagorean theorem to find the length of the hypotenuse. Round answers to the nearest tenth.

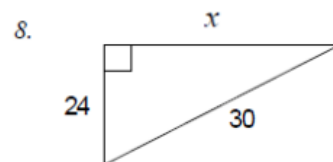
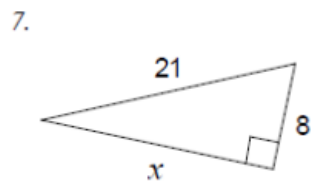
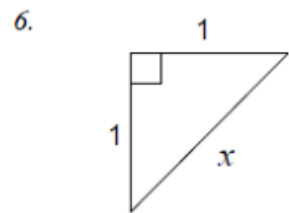
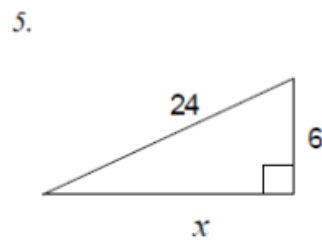
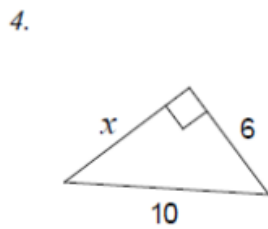
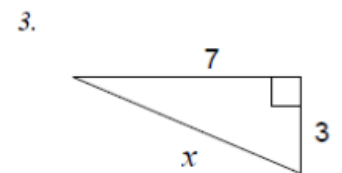
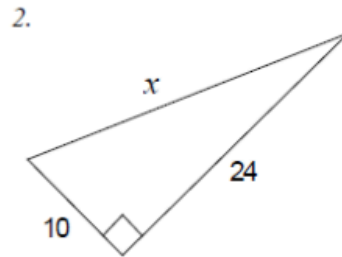
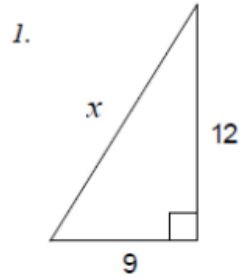
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Example: The leg and the hypotenuse of a right triangle are 11 in and 5 in. Sketch the triangle and use the Pythagorean theorem to find the missing side length. Round answers to the nearest tenth.

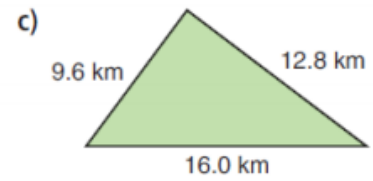
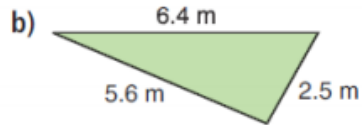
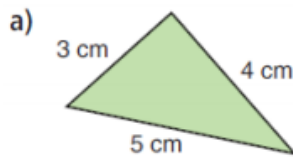
Example: Determine if a triangle with lengths of 17, 15, and 8 will form a right triangle.

Assignment 1: The Pythagorean Theorem (on your own)

Use the Pythagorean Theorem to find the unknown side in each of the right triangles.



9. Use the Pythagorean Theorem to see if these triangles are right triangles. JUSTIFY your answer.



10. The hypotenuse of a right angled triangle is 30cm. If one of the shorter sides is 18cm, find the length of the other side.

11. In a right angled triangle, the longest side is 39cm and the shortest side is 15cm. Find the length of the third side.

When FINISHED:

1 - Check your [answers from Assignment 1](#)

2 - [Complete Quiz](#) → check your understanding

(answers will be sent to Instructor to view = 5 points).

WA 10

Right Triangles

Date: _____

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