

Name: _____ Date: _____

Period: ____

Ma 8 - Pythagorean Theorem Review

Review from last class! Estimate these square roots!

$$\sqrt{5}$$

$$\sqrt{11}$$

$$\sqrt{18}$$

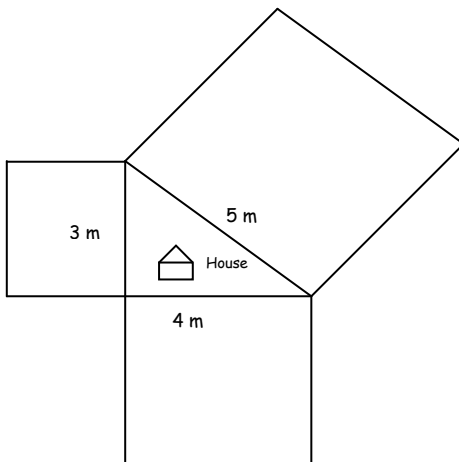
$$\sqrt{47}$$

$$\sqrt{105}$$

$\sqrt{18}$ is between which two perfect squares?

$\sqrt{60}$ is between which two perfect squares?

The Pythagorean Theorem (the main thing in Math 8)



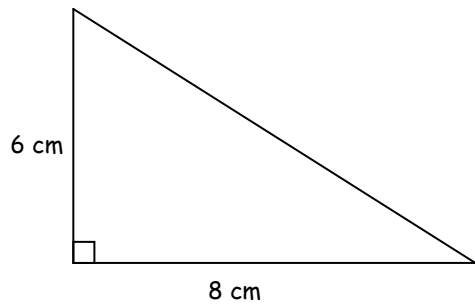
A farmer had three fields. In her will she wanted to leave an equal area to her son and her daughter. How could she divide up the fields to do this? What is the area of each field?

In a right triangle, the area of the square attached to the hypotenuse is equal to the sum of the areas of the squares attached to the legs. We call this the Pythagorean Theorem. It is usually written $a^2 + b^2 = c^2$.
You need to memorize this equation.

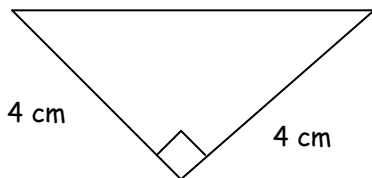
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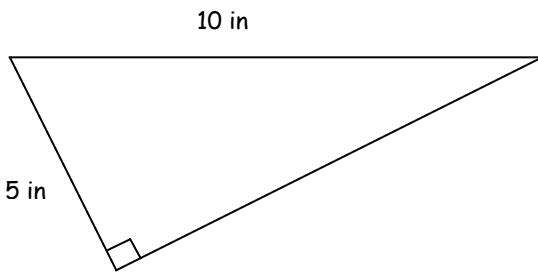
Example 1 - Calculate the length of the hypotenuse.



Example 2 - Find the area of the square of the unknown side.



Example 3 - Find the unknown length, give your answer to the nearest tenth.



Exploring Triangles:

There are different types of triangles besides a right triangle. Draw the following:

1. Equilateral
2. Isosceles
3. Scalene
4. Similar Triangles

5. Right
6. Acute
7. Obtuse

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Applying Pythagorean Theorem:

When using Pythagorean Theorem on a right triangle, does it matter which two sides we already know?

What are the three different ways of writing the Pythagorean Theorem?

When will you subtract one square from another square in the Pythagorean Theorem? When you are looking for the hypotenuse or when you are looking for a leg?

Let's Practice!

1. From her house, Mary walks 10 meters south. Then she walks 18 meters east arriving at a park. Find the distance between her house and the park. Include a labelled diagram.
2. Maria helped her dad build a small rectangular table for her bedroom. The table top has a length of 56 cm and a width of 33 cm. The diagonal of the table top measures 60 cm. does the table top have square corners?
3. A ramp is used to load a snowmobile onto a trailer. The ramp has a horizontal length of 168 cm and a sloping length of 175cm. It forms a right triangle. How high is the ramp? If the building code of BC requires that the ramp not exceed a ratio of 1:2 (vertical distance: horizontal distance), does the ramp meet this code?

Here's one more clue to remember when calculating the length of any side of a right triangle - the last step in your calculation will always be _____.