Warm up: Geometry Pre Assessment 1/16

Individually and on a sheet of paper that you will turn in to me, complete these 5 problems (#s 4 and 5 are on the board).

1. Simplify $\sqrt{75}$ = ____

2. Simplify under the radical (do not have a decimal, your answer will include a radical). $\sqrt{12}$ = ____

3. If $a^2 + b^2 = c^2$ and if a = 3 and c = 5, then solve for b.

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W.A.L.T.:

Identify the parts of a right triangle.

Use the Pythagorean Theorem to solve problems.

W.A.S.I.:

We can substitute values into the formula and solve for the missing variable.

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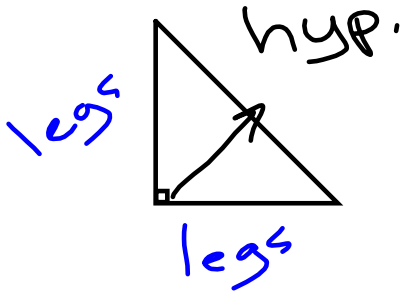
Notes: Right Triangles

Right triangles are triangles that contain one right angle.

Right triangles have three important properties:

1. right angle
2. hypotenuse
3. legs



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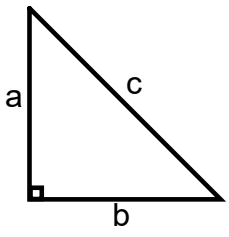
Notes: Pythagorean Theorem

Words:

The Pythagorean Theorem states that **IF** we have any right triangle, **THEN** the sum of the square of the legs is equal to the square of the hypotenuse.



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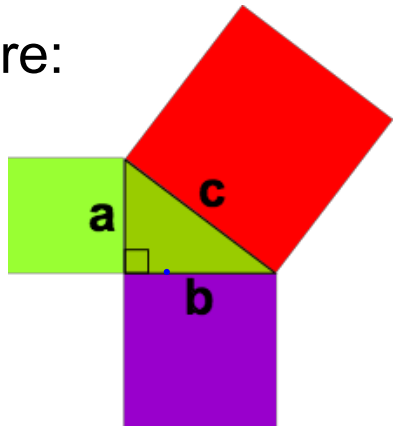
Notes: Pythagorean Theorem

Picture:



For any right triangle, the sum of the square of the legs is equal to the square of the hypotenuse.

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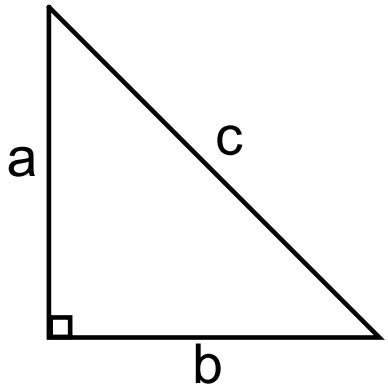
Notes: Pythagorean Theorem

Symbolic:

$a^2 + b^2 = c^2$

Where c is the hypotenuse in any right triangle.



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Notes: Pythagorean Theorem

A **Pythagorean triple** is a set of three nonzero whole numbers that satisfy the Pythagorean Theorem.

3, 4, 5

6, 8, 10

5, 12, 13

7, 24, 25

$a^2 + b^2 = c^2$

$3^2 + 4^2 = 5^2$

$9 + 16 = 25$

$25 = 25$

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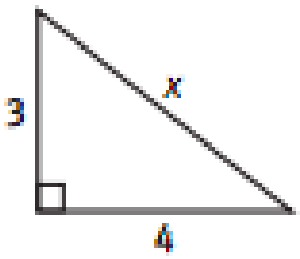
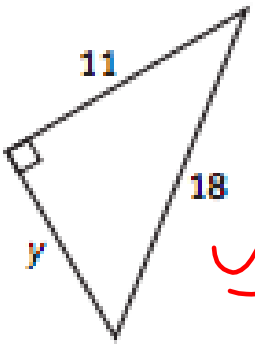
In-class Work:

Find each unknown length. Keep answer in radical form.

a.



b.



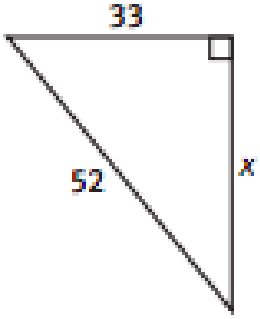
$11^2 + y^2 = 18^2$

$121 + y^2 = 324$

-121

$y^2 =$

c.



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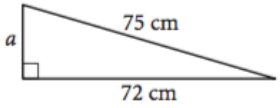
P.W.:

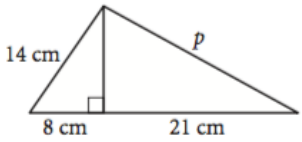
pg. 289 #s 1-6 and these three problems below - take a picture!

Give all answers rounded to the nearest 0.1 unit.

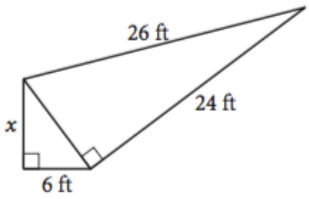
1. $a =$ _____



2. $p \approx$ _____



3. $x =$ _____



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