Right Triangle

hypotenuse

long name for the longest side

leg

opposite each other

90°

leg

How are right triangles labeled?

c — always the hypotenuse
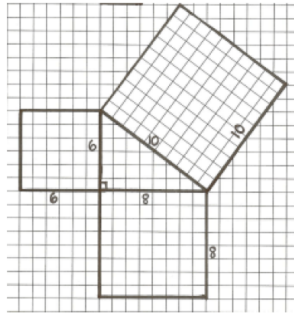
a

b
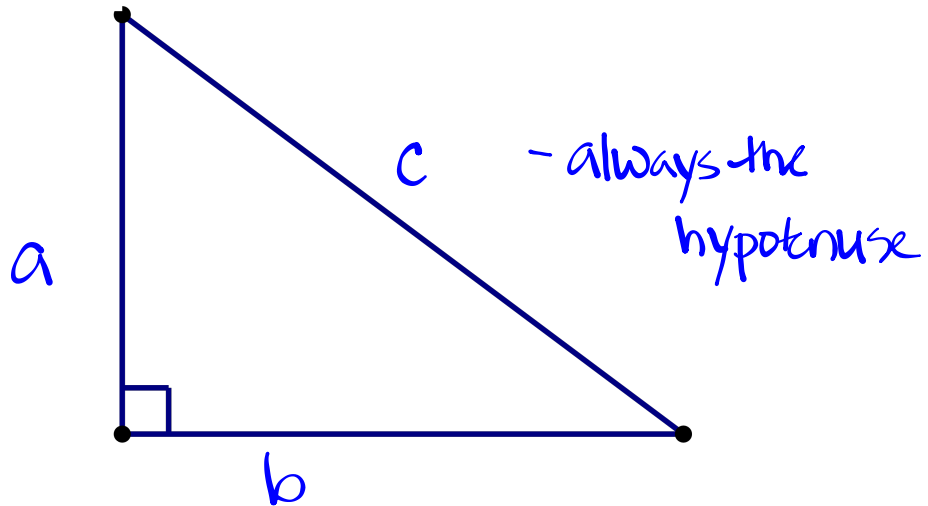
a and b are the legs, it doesn't matter what the order is

Use the diagrams to answer the following questions.
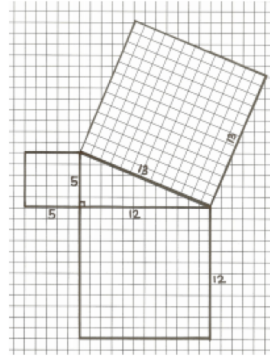
What are the lengths of the legs of the right triangle?

_____ and _____

What is the length of the hypotenuse?

_____

What are the areas of the squares off of the legs?

_____ and _____

What is the sum of those two areas?

_____

What is the area of the square off of the hypotenuse?

_____

What are the lengths of the legs of the right triangle?

_____ and _____

What is the length of the hypotenuse?

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What are the areas of the squares off of the legs?

_____ and _____

What is the sum of those two areas?

_____

What is the area of the square off of the hypotenuse?

_____

Explain the relationship between the sum of the areas off of the legs and area off of the hypotenuse?

_____

Do you think all right triangles will have lengths that are integers? Explain. _____
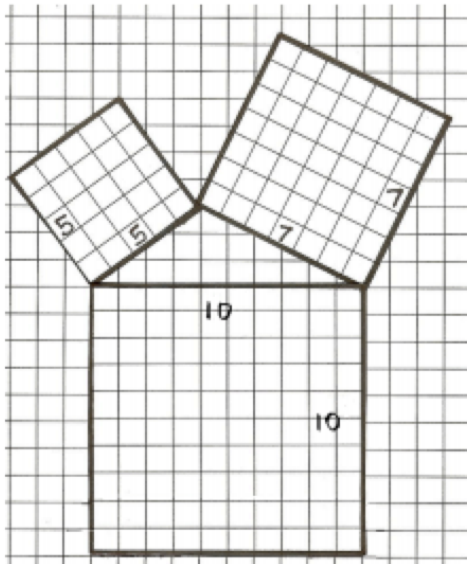
_____

How to get a square root:

$\sqrt{}$

radical sign

$\sqrt{4} = 2$

On the calculators in the classroom, the radical sign is above the x^2 button. You need to press the 2nd button to access it.

To find the square root of a number:

$\boxed{2^{nd}}$ $\boxed{x^2}$ $\boxed{\text{your \#}}$ $\boxed{=}$

What are the lengths of the shorter sides of the triangle? _____ and _____

What is the length of the longest side? _____

What are the areas of the squares off of the two shorter sides? _____ and _____

What is the sum of those two areas? _____

What is the area of the square off of the longest side? _____

If there is no relationship, why do you think that is? _____

_____

The data below was taken from five right triangles with sides a, b, and c. (Side c is always the longest side.) The area of the square off each side is denoted with a capital letter.
Using what you have discovered, complete the table below.

a	Area of A	b	Area of B	Area of C	c
6		8			
5		4			
9		10			
	1		4		
	9			36	

Remember ...