Warm Up
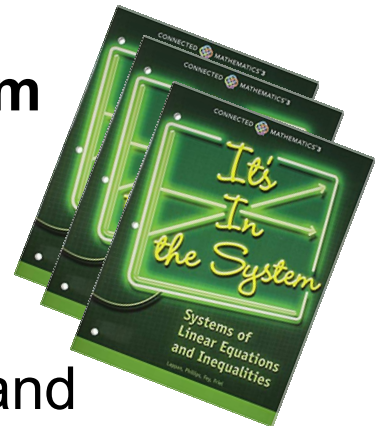
Pile your **It's In The System** textbooks in the center of your table group.

Solve the following inequality and graph the solutions on a number line.
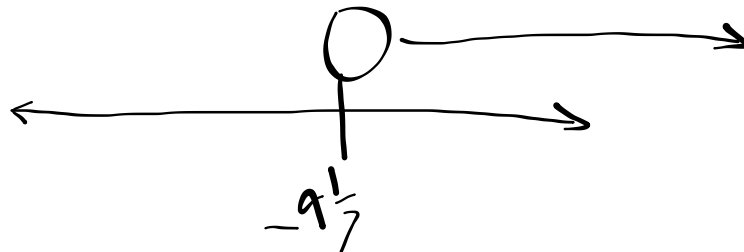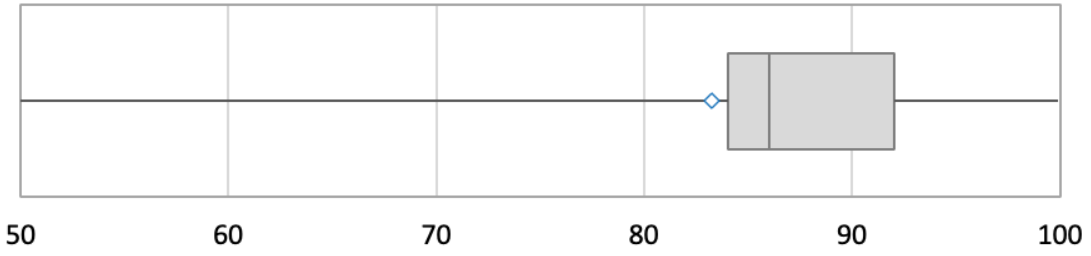
$$4(3x + 5) > 5x - 9$$

$12x + 20 > 5x - 9$

$ +9 +9$

$12x + 29 > 5x$

$-5x -5x$

$\dfrac{29 > 7x}{-7 -7}$

$-4\frac{1}{7} < x$
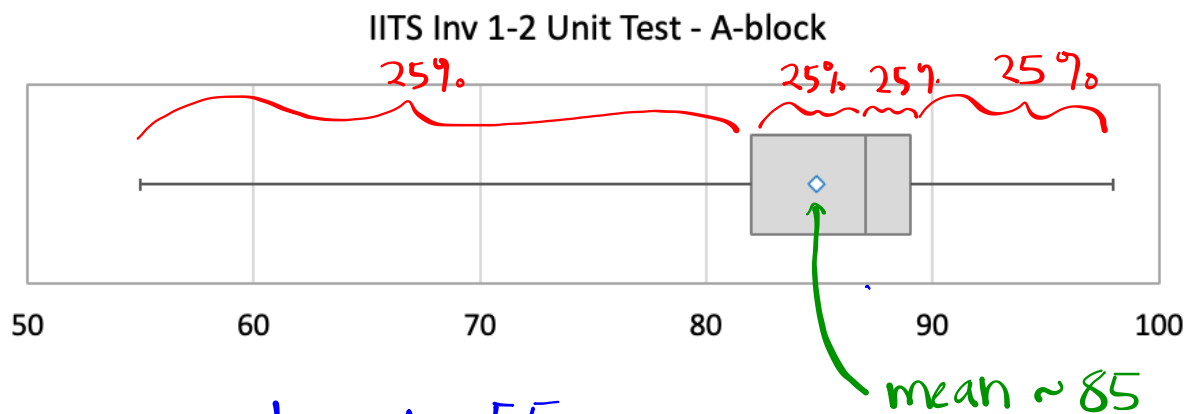
Sign flipped because dividing by a negative #

$-9\frac{1}{7}$

IITS Unit Test - E block

Tests are corrected.
(Though not all have been finished)

You can pick your test up after 11:00.
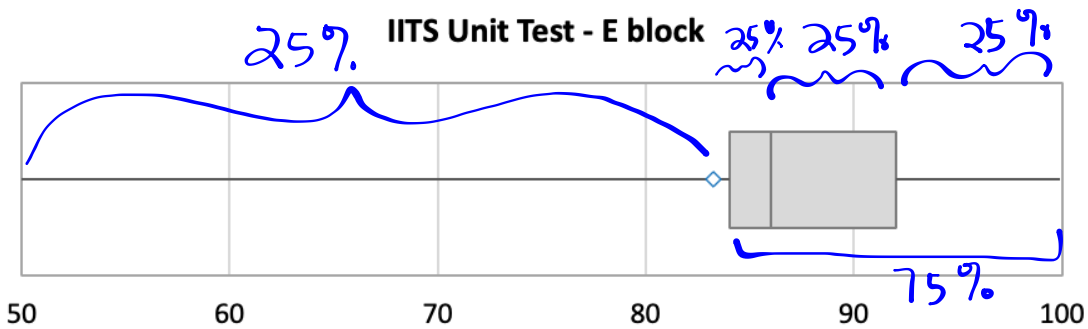
IITS Inv 1-2 Unit Test - A-block

25%   25% 25%   25%

mean ~ 85

50   60   70   80   90   100

Lowest grade: 55

Median: 87

Highest Grade: 98

75% of all students scored above 83%.

What does this data tell us?

IITS Unit Test - E block
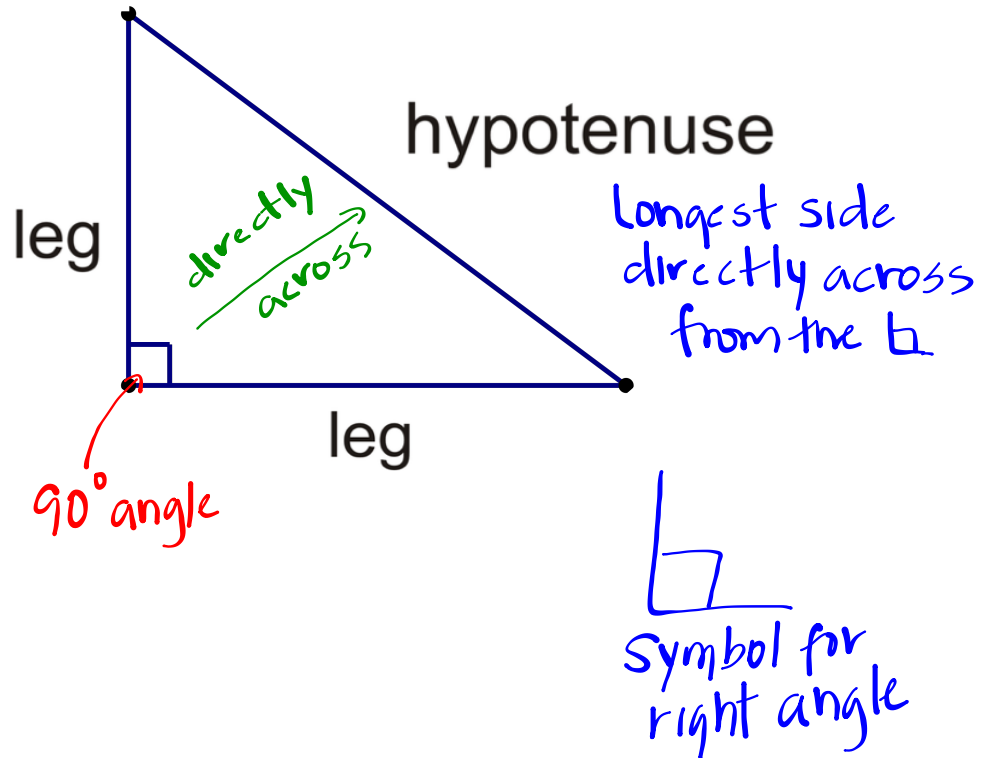
25%   25% 25%   25%

75%

50   60   70   80   90   100

Average : 83-84

Range of scores = 50 pts

75% scored above: ~85

Right Triangle

(some basic vocab)

hypotenuse

leg

directly across

leg

Longest side directly across from the ⌐

90° angle

⌐ Symbol for right angle

How are right triangles labeled?

a

b

c – always the hypotenuse
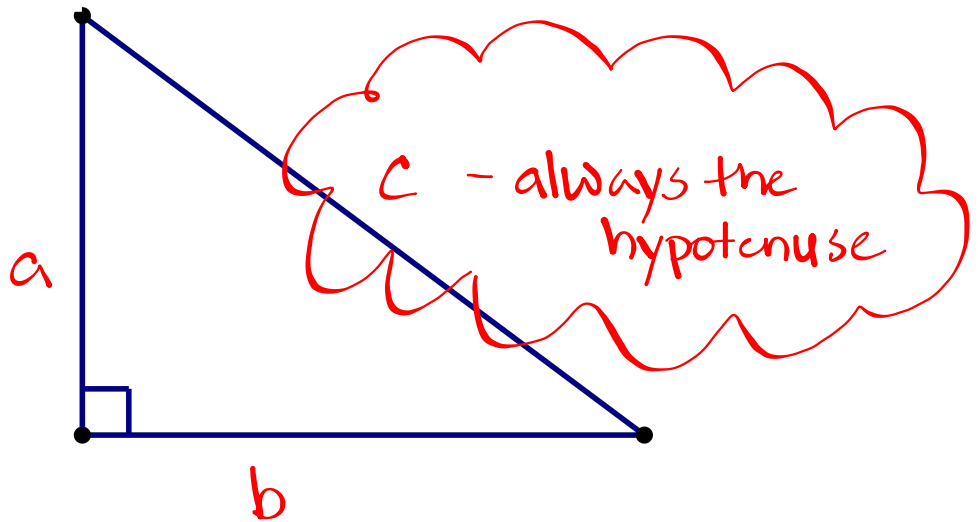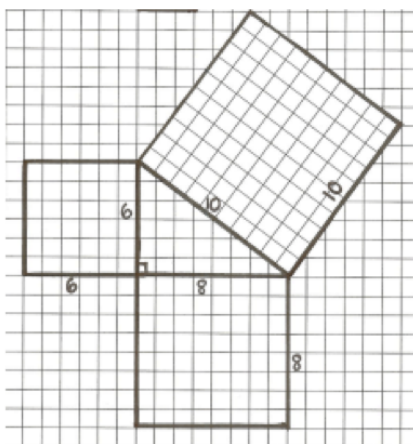
Doesn't matter which is a or b

Use the diagrams to answer the following questions.

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

_____6 in_____ and _____8 in_____

What is the length of the hypotenuse?

_____10 in_____

What are the areas of the squares off of the legs?
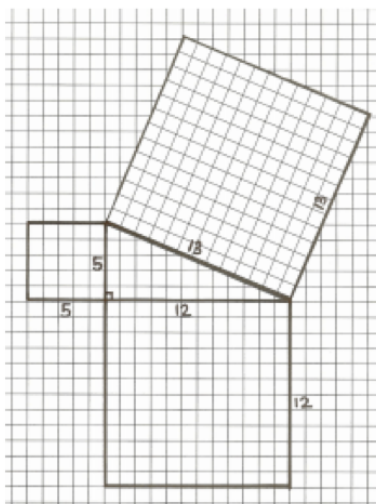
_____36_____ and _____64_____

→ What is the sum of those two areas?

_____100_____

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

_____100_____

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

_____12 u_____ and _____5 u_____

What is the length of the hypotenuse?

_____13 u_____

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

_____25 u²_____ and _____144 u²_____

What is the sum of those two areas?

_____169_____

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

_____169_____

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

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

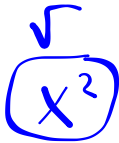_____sum of area of the legs = area off hypotenuse_____

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

_____

How to get a square root:
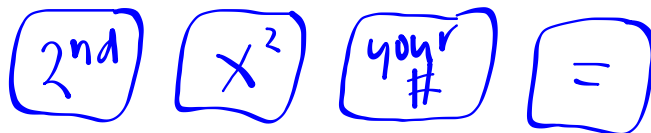
$$\sqrt{}$$
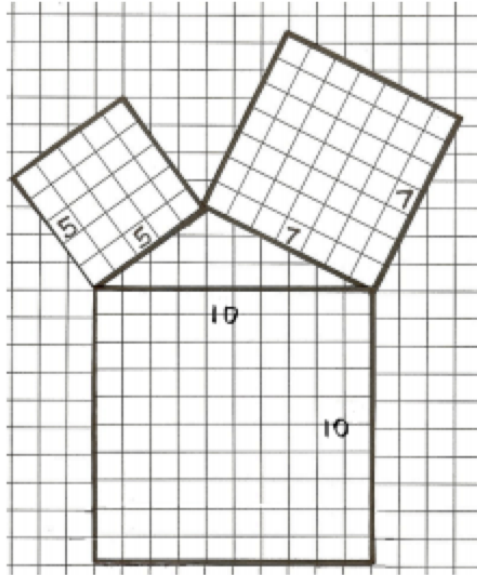
radical
sign

$$\sqrt{4} = 2$$

$\sqrt{x^2}$ 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	36	8	64	144	12
5	25	4	16	41	64
9	81	10	100	181	13.5
1 3	1	2 1	4	5	2.23
3	9		1	36	3.1