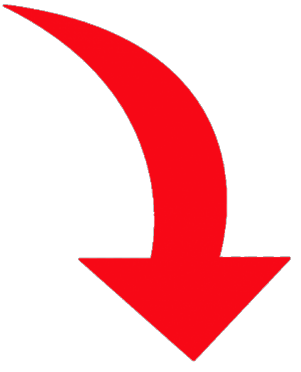
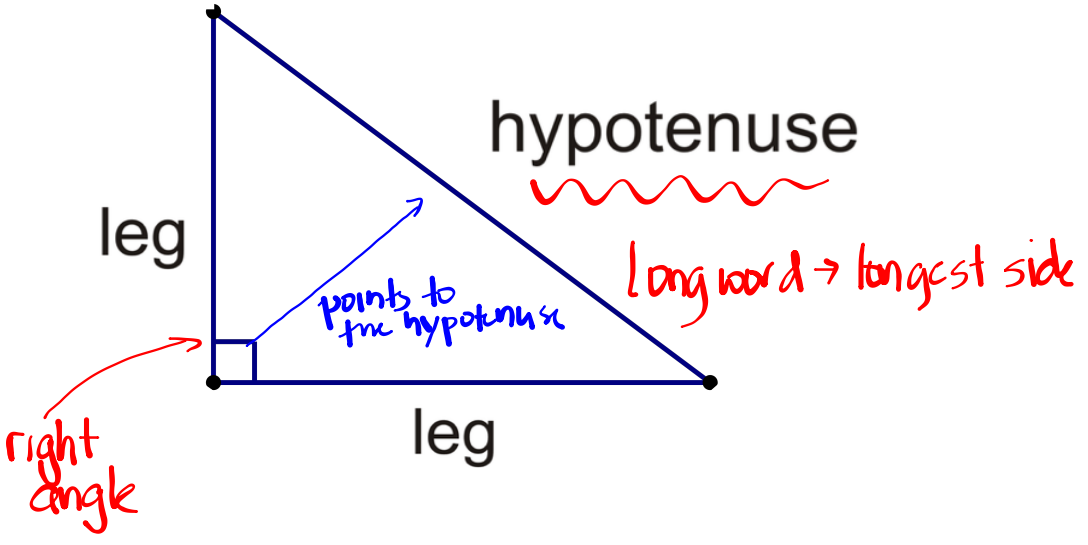
Warm Up

Pile your It's In The System textbooks on the desk below.

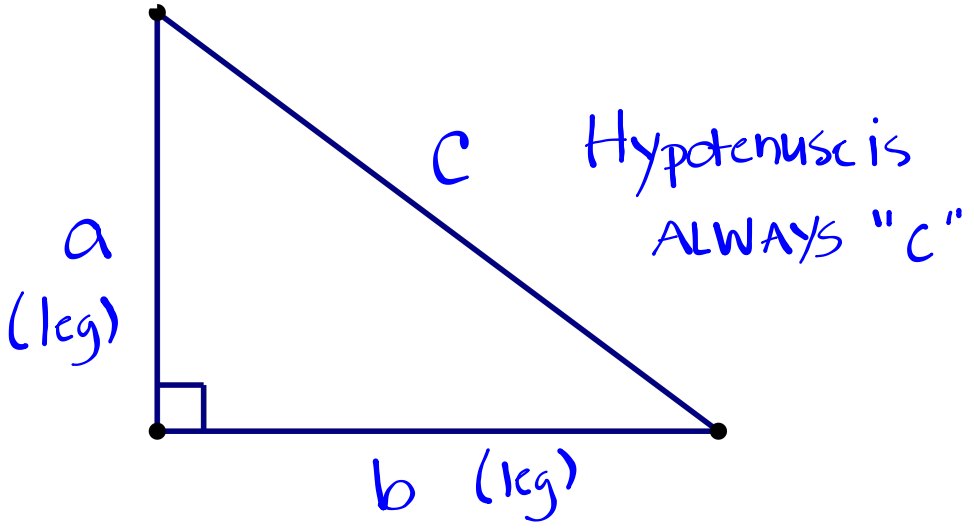


March 24, 2023

Right Triangle

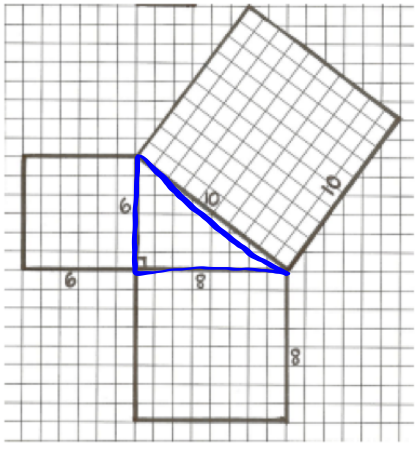


How are right triangles labeled?



March 24, 2023

Use the diagrams to answer the following questions.



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

6 and 8

What is the length of the hypotenuse?

10

6.6 8.8

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

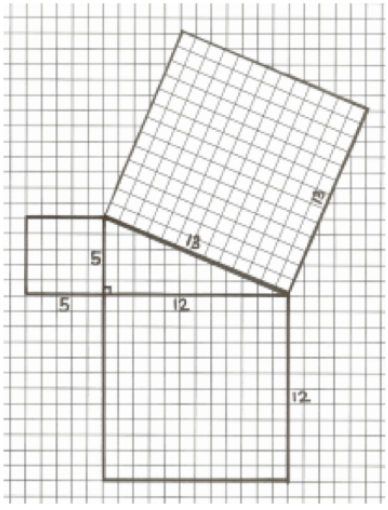
36 and 64

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?

_____ 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?

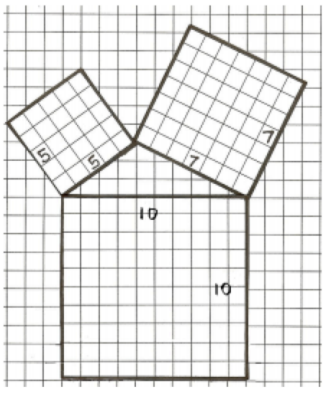
_____

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. _____

_____

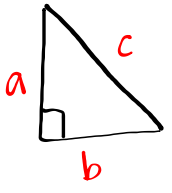


What are the lengths of the shorter sides of the triangle? _____ and _____
What is the length of the longest side? _____
What are the areas of the squares off of the two shorter sides? _____ and _____
What is the sum of those two areas? _____
What is the area of the square off of the longest side? _____

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	100	10
5	25	4	16	41	6.4
9	81	10	100	181	13.5
1	1	2	4	5	$\sqrt{5}$: 2.2
3	9	5.2	27	36	6



$\sqrt{}$ Radical Sign

$\sqrt{x^2}$

to get $\sqrt{}$ you need to [2nd] [x^2]

[2nd] [x^2] [5] → $\sqrt{5}$

$\sqrt{16}$ what is the square root of 16

what # multiplied by itself = 16?

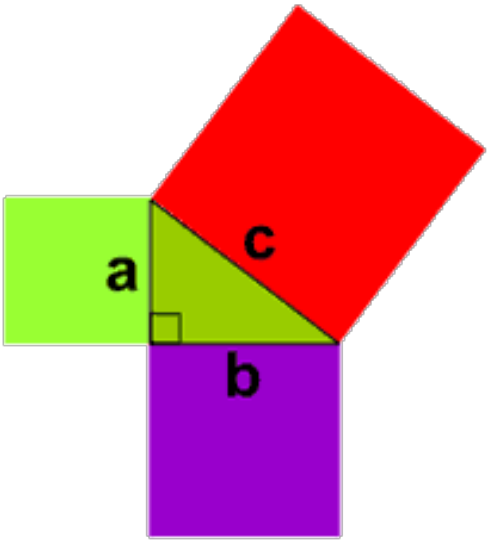
4! ← 4 is the square root of 16

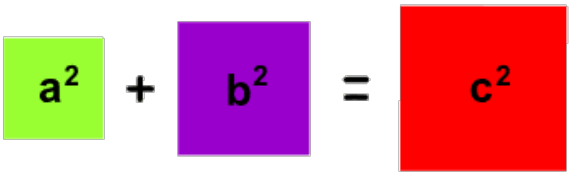
$\sqrt{16} = 4$

March 24, 2023

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

Pythagorean Theorem



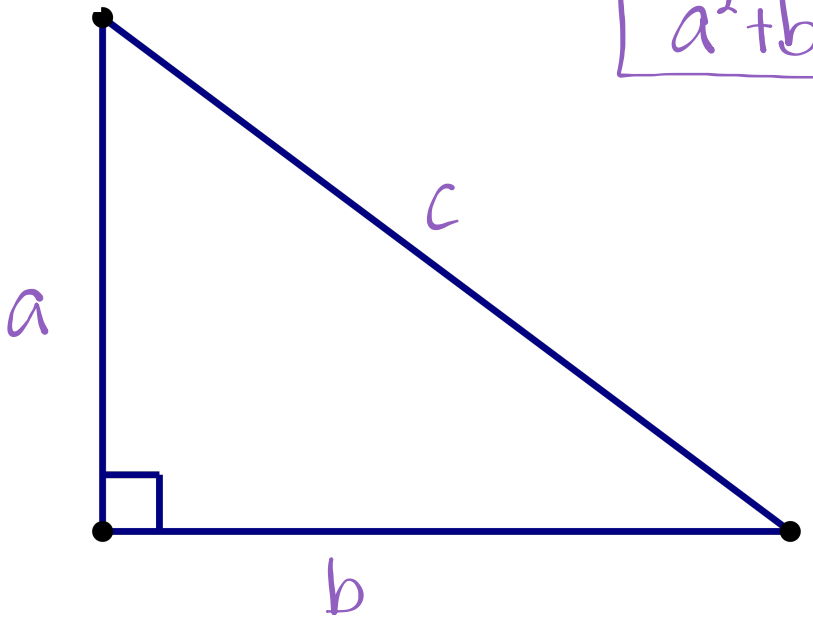


Pythag Water Demo.mp4

March 24, 2023

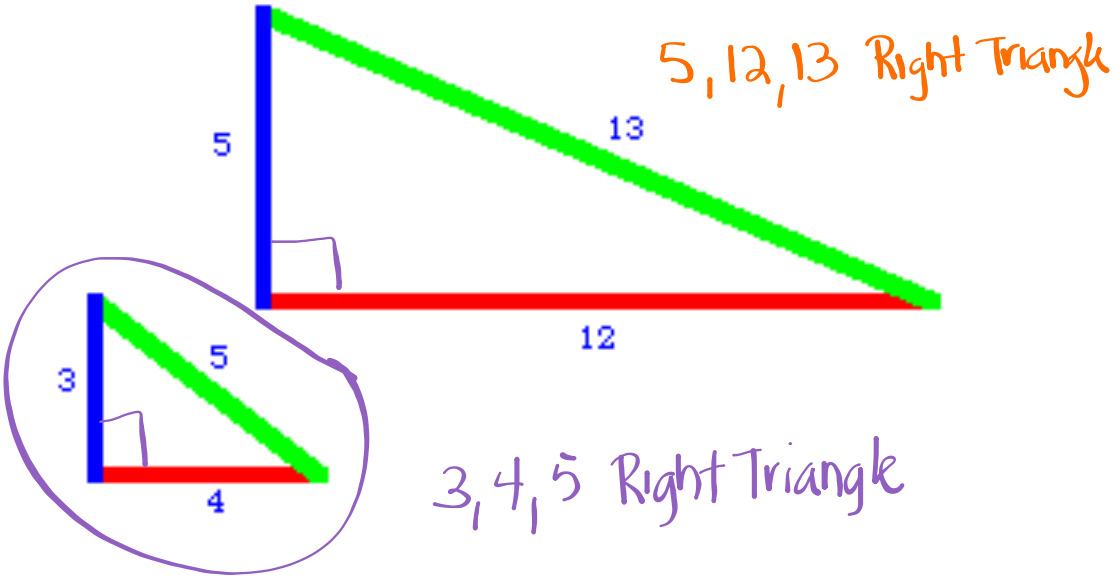
Pythagorean Theorem

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



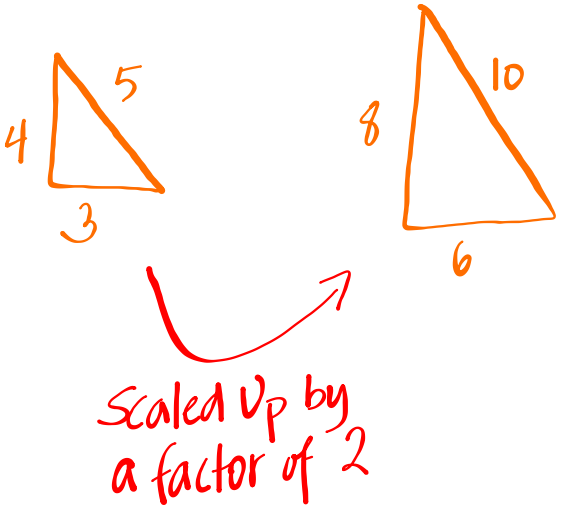
March 24, 2023

Pythagorean Triples



If a 3, 4, 5 triangle is a right triangle, do you think a 6, 8, 10 triangle is also a right triangle?

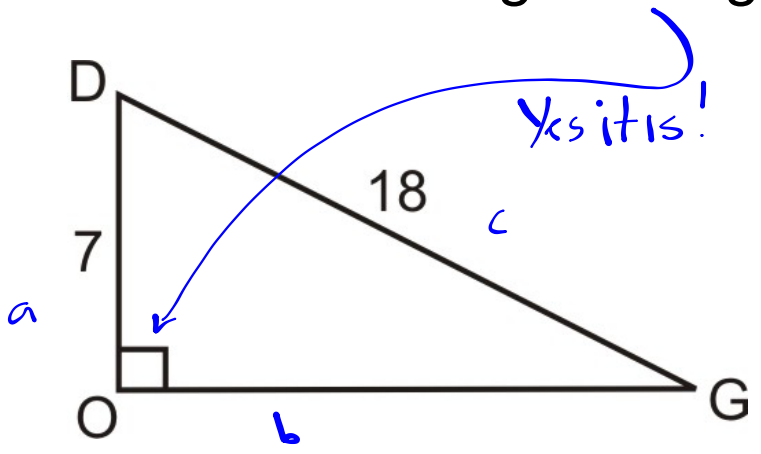
Think about what you know about shrinking and stretching...



Congruent or Similar

Exactly the same

Is ΔDOG a right triangle?



What is the length of OG?

We can figure this out because ΔDOG is a right triangle.

$a^2+b^2=c^2$ ← Formula ALWAYS written first

$(7)^2+b^2=18^2$

$49+b^2=324$

$-49 \quad -49$

$\sqrt{b^2}=\sqrt{275}$

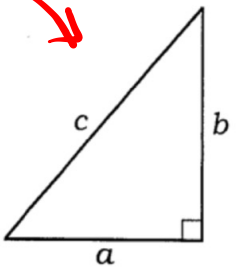
$b=16.6$

March 24, 2023

What Did Dr. Dripp Say to the Bleeding Kid Who Refused to Get Stitches?

Find the missing side length, if possible (some answers are rounded). Cross out the letter next to the correct answer. When you finish, the answer to the title question will remain.

For Exercises 1-8, refer to the diagram at the right.



1. $a = 6, b = 8$

$c =$ _____

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

$6^2+8^2=c^2$

substitute in values you know

$36+64=c^2$

$100=c^2$

solve

$10=c$

2. $a = 10, b = 7$

$c =$ _____

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

$10^2+7^2=c^2$

$100+49=c^2$

$\sqrt{149}=\sqrt{c^2}$

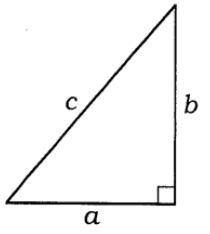
$12.2=c$

March 24, 2023

What Did Dr. Dripp Say to the Bleeding Kid Who Refused to Get Stitches?

Find the missing side length, if possible (some answers are rounded). Cross out the letter next to the correct answer. When you finish, the answer to the title question will remain.

For Exercises 1-8, refer to the diagram at the right.



1. $a = 6$, $b = 8$
   $c =$ _____

2. $a = 10$, $b = 7$
   $c =$ _____

3. $a = 15$, $b = 15$
   $c =$ _____

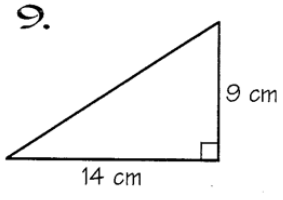
4. $a = 10$, $c = 26$
   $b =$ _____

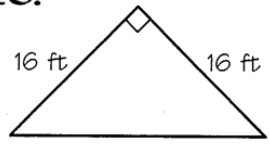
5. $b = 30$, $c = 50$
   $a =$ _____

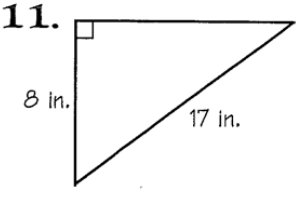
6. $a = 5$, $c = 12$
   $b =$ _____

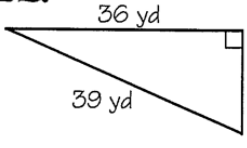
7. $b = 13$, $c = 20$
   $a =$ _____

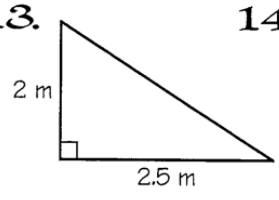
8. $a = 1.5$, $b = 2$
   $c =$ _____

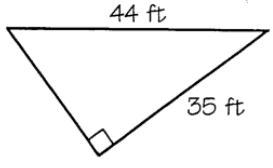
9. 

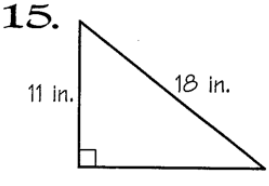
10. 

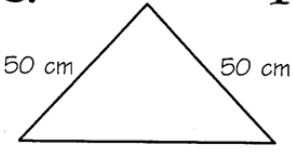
11. 

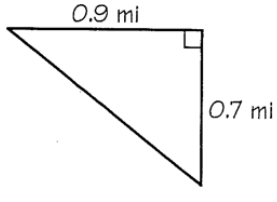
12. 

13. 

14. 

15. 

16. 

17. 

THSTOELLPFIT	Answers 1-8
	40
	12.2
	2.8
	10.9
	2.5
	42
	22.9
	24
	15.2
	11.5
	10
	21.2

ASOCUPTRBUERLED	Answers 9-17
	3.2 m
	17.4 cm
	22.6 ft
	16 yd
	14.2 in.
	24.5 ft
	15 in.
	not possible
	1.3 mi
	26.7 ft
	3.6 m
	1.1 mi
	16.6 cm
	14.6 in.
	15 yd