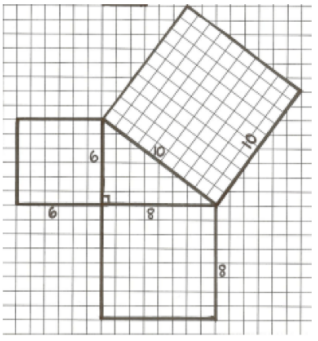
Use the diagrams to answer the following questions.



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?

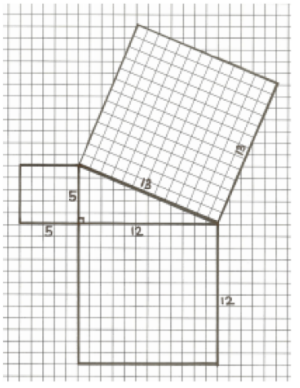
_____ and _____

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?

_____

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?

_____

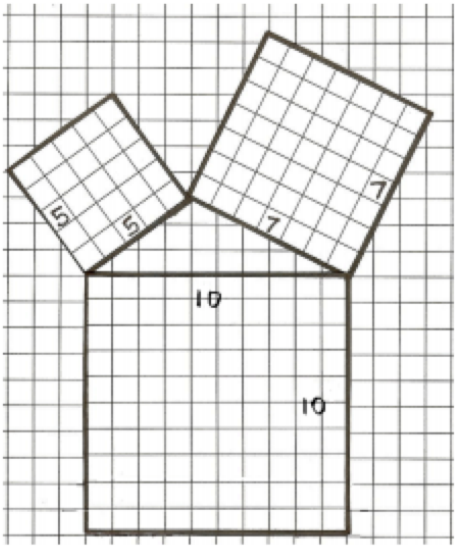
Explain the relationship between the sum of the areas off of the legs and area off of the hypotenuse?

_____

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

_____

To find the square root of a number:



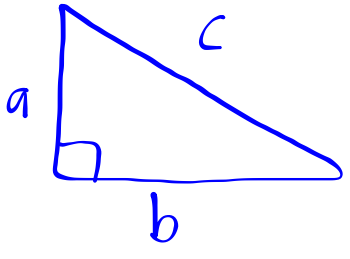
What are the lengths of the shorter sides of the triangle? _____ and _____
What is the length of the longest side? _____
What are the areas of the squares off of the two shorter sides? _____ and _____
What is the sum of those two areas? _____
What is the area of the square off of the longest side? _____

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

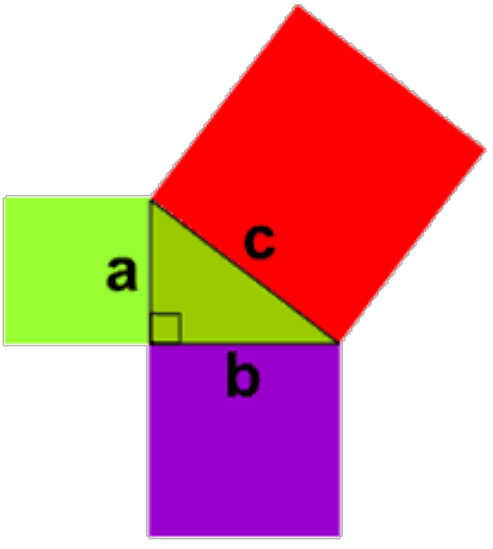
_____

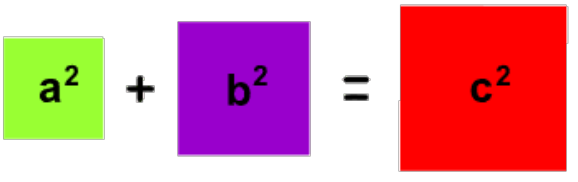
The data below was taken from five right triangles with sides a, b, and c. (Side c is always the longest side.) The area of the square off each side is denoted with a capital letter.
Using what you have discovered, complete the table below.

a	Area of *A*	*b*	Area of B	Area of C	*c*
6	36	8	64	100	$\sqrt{100} = 10$
5	25	4	16	41	6.4
9	81	10	100	181	13.5
1	1	2	4	5	2.3
3	9	5.2	27	36	6



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





Pythag Water Demo.mp4

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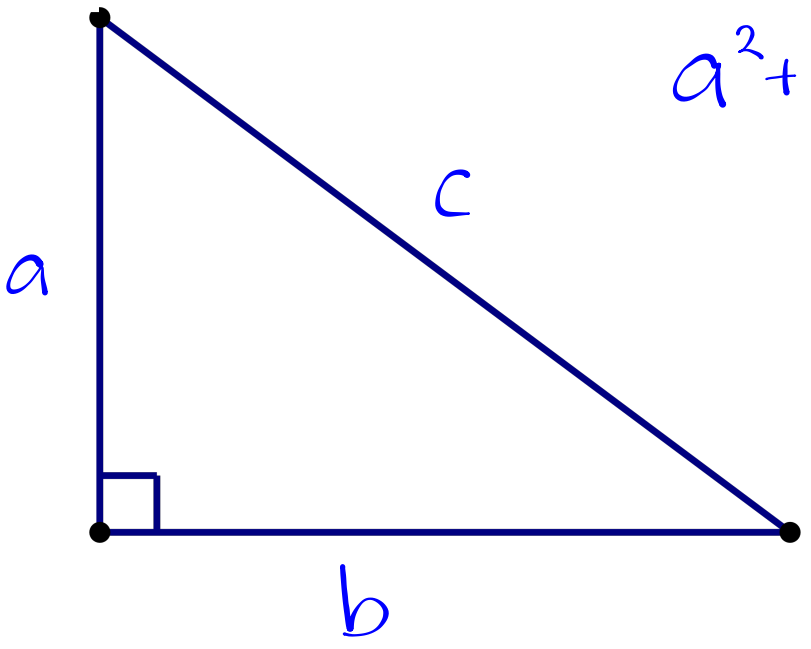
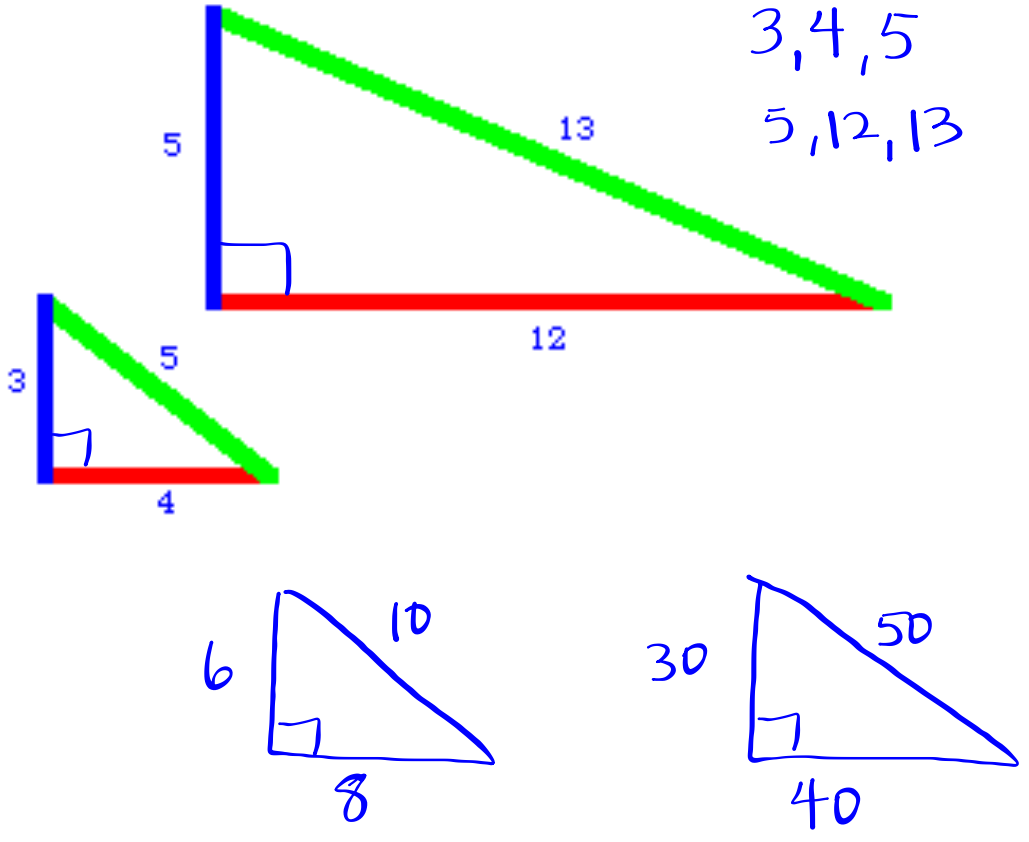
Pythagorean Theorem



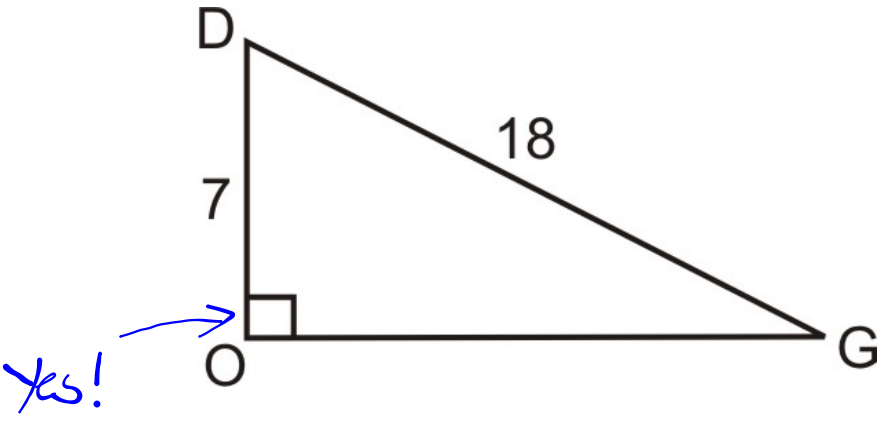
$a^2+b^2=c^2$

Pythagorean Triples



Using what we know about shrinking and stretching we can create more Pythagorean Triples.

Is ΔDOG a right triangle?



What is the length of OG?

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

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

$$49+b^2=324$$

$$-49 \qquad -49$$

$$b^2=275$$

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

$$b=16.6$$

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.

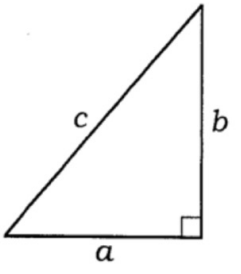
For Exercises 1-8, refer to the diagram at the right.

1. $a = 6, b = 8$

$c =$ _____

2. $a = 10, b = 7$

$c =$ _____



always the hypotenuse

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

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

$36 + 64 = c^2$

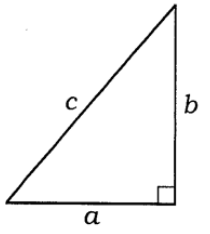
$\sqrt{100} = \sqrt{c^2}$

$10 = c$

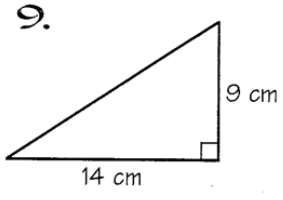
What Did Dr. Dripp Say to the Bleeding Kid Who Refused to Get Stitches?

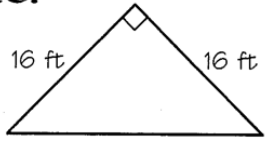
Find the missing side length, if possible (some answers are rounded). Cross out the letter next to the correct answer. When you finish, the answer to the title question will remain.

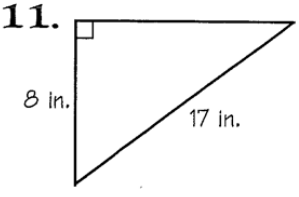
For Exercises 1-8, refer to the diagram at the right.

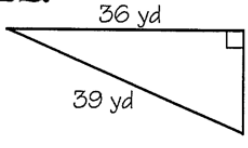


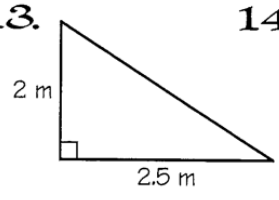
1. $a = 6$, $b = 8$
   $c =$ _____
2. $a = 10$, $b = 7$
   $c =$ _____
3. $a = 15$, $b = 15$
   $c =$ _____
4. $a = 10$, $c = 26$
   $b =$ _____
5. $b = 30$, $c = 50$
   $a =$ _____
6. $a = 5$, $c = 12$
   $b =$ _____
7. $b = 13$, $c = 20$
   $a =$ _____
8. $a = 1.5$, $b = 2$
   $c =$ _____

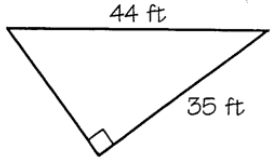
9. 

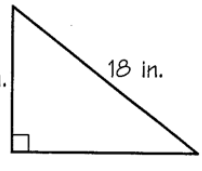
10. 

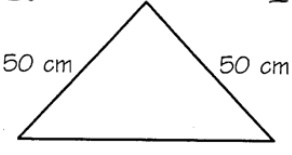
11. 

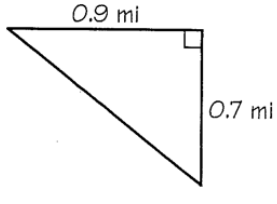
12. 

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

Triangles:
The Pythagorean Theorem