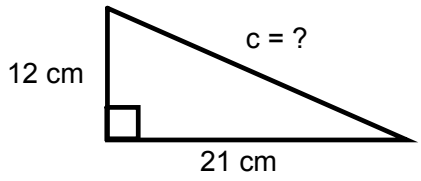
October 26, 2015

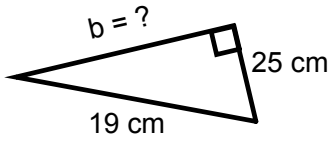
Pythagorean Theorem Assignment

Mr. MacDonald ***Math 9***

1.



2.



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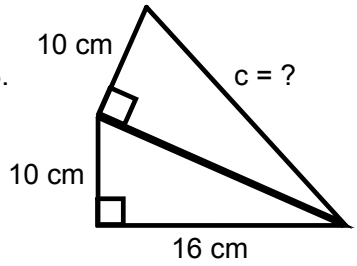

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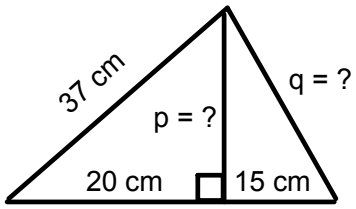
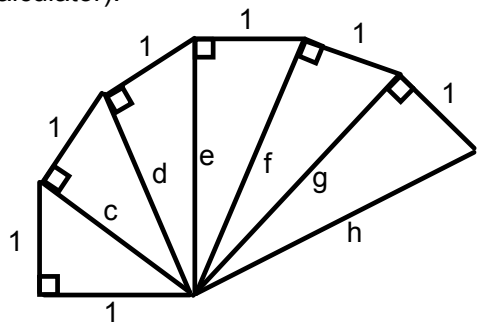
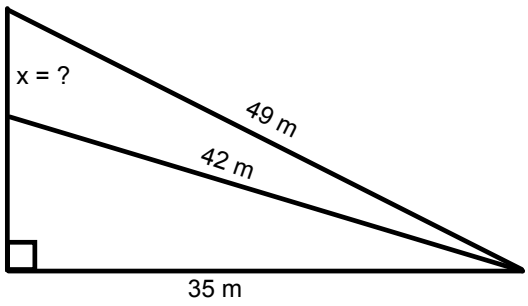


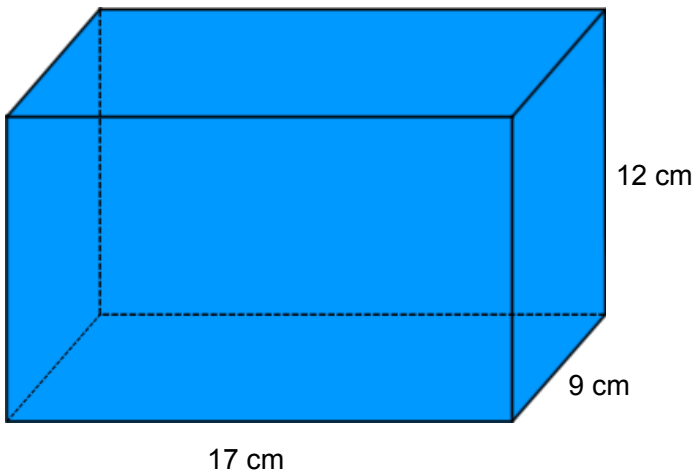
5. Calculate the length of the unknown sides but leave your answers as a square root (don't hit the square root button on your calculator).



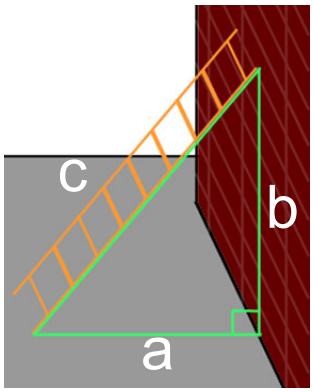
6.



7. Calculate the longest pencil that could fit the following box:



In this problem you will analyze how far a 15m ladder will slide down a wall as the bottom is moved away from the wall 1.0 m at a time.



Pre-thinking: If you move the base out 1.0 m will the ladder slide down the wall 1.0 m? Discus what you think and why with another classmate and record your discussion.

Fill out the following table (to 2-decimal places) and then answer a few analysis questions on the bottom.

a	b	b_1-b_2
0	15	N/A
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Discussion Questions

1. Look at the third column, which represents the change in ladder height as the base is increased by 1.0 meters. Does the height change by 1.0 m as well? Describe the how the b_1-b_2 values change as you go down the table.

2. Estimate the number where the distance along the ground equals the distance up the wall.

3. Try the calculation again for *a = 16 m* (with c = 15 m) and discuss (and write down) the result.

There is an interesting connection between this problem and geometry. I will show you in class, in the meantime try to be patient.