	Pythagorean Theorem:	Findi	ng the Leng	gth of a Leg (p	age 1)	
Find the n	nissing length of each triangle.					
Example A	$a^{2} + b^{2} = c^{2}$ $5^{2} + b^{2} = 13^{2}$	$a^{2} + b^{2} = c^{2}$ Write the Pythagor $5^{2} + b^{2} = 13^{2}$ Substitute 5 for a s				
	$25 + b^{2} = 169$ $-25 = -25$ $b^{2} = 144$	Evaluate Subtract 25 from both sides		Therefo of the r is J	Therefore, the length of the missing side b is 12 meters.	
5	m $\sqrt{b^2} = \sqrt{144}$ b = 12	Take positive square root of each side Simplify				
Example	$a^2 + b^2 =$	$(1 2)^{2}$	c^{2} Write the Pythagorean Theorem			
	$\begin{array}{c} 1.2 \\ 1.3 \\ 1.3 \end{array} \qquad \begin{array}{c} a^2 + (1.2) = \\ a^2 + 1.44 = \\ -1.44 = \\ a^2 = \end{array}$	(1.3) 1.69 -1.44 0.25	Substitute 1.2 for <i>b</i> and 1.3 for <i>b</i> Evaluate Subtract 1.44 from both sides		3 for <i>b</i> des	Therefore, the length of the missing side a is 0.5 units.
	$\sqrt{a^2} = a =$	$\sqrt{0.25}$ 0.5	Take posit Simplify	ive square root of	each side	
Name			Period	Date		

_ Period____ Date_

Pythagorean Theorem: Finding the Length of a Leg (page 1)

Find the missing length of each triangle.

Name _



0.5 units.

Example B
1.2
1.3

$$a^2 + b^2 = c^2$$
 Write the Pythagorean Theorem
 $a^2 + (1.2)^2 = (1.3)^2$ Substitute 1.2 for b and 1.3 for b
 $a^2 + 1.44 = 1.69$ Evaluate
 $-1.44 = -1.44$ Subtract 1.44 from both sides
 $a^2 = 0.25$
 $\sqrt{a^2} = \sqrt{0.25}$ Take positive square root of each side
 $a = 0.5$ Simplify

Pythagorean Theorem: Finding the Length of a Leg (page 2)

Find the missing length of each triangle.



Pythagorean Theorem: Finding the Length of a Leg (page 2)

Find the missing length of each triangle.

