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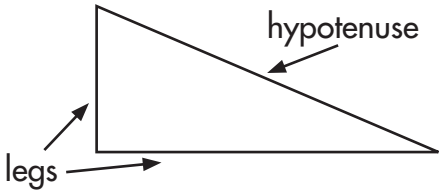
Lesson 5.7 Defining Pythagorean Theorem

The **Pythagorean Theorem** states that if a triangle is a right triangle, then $a^2 + b^2 = c^2$, when a and b represent the legs of the triangle and c represents the hypotenuse.



The Pythagorean Theorem:
If a triangle is a right triangle, then $a^2 + b^2 = c^2$.

Converse of Pythagorean Theorem:
If $a^2 + b^2 = c^2$, then the triangle is a right triangle.

Complete the table below to prove if each set of sides creates a right triangle.

	a	b	c	Is $a^2 + b^2 = c^2$ true?	Makes a right triangle?
1.	3	4	5		
2.	3	4	6		
3.	4	6	9		
4.	5	12	13		
5.	6	8	13		
6.	7	24	25		
7.	7	13	15		
8.	8	20	25		
9.	8	15	17		
10.	10	27	30		
11.	13	20	30		
12.	13	21	29		

13. Based on the true results in the table above, what pattern can be inferred about the Pythagorean Theorem?

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