

Looking For Pythagoras
Investigation 3.1 – Discovering the Pythagorean Theorem
Virtual Manipulatives - Geoboard

What do we call the longest side of a right triangle? _____

What do we call the other two sides of a right triangle? _____

Describe a right triangle.

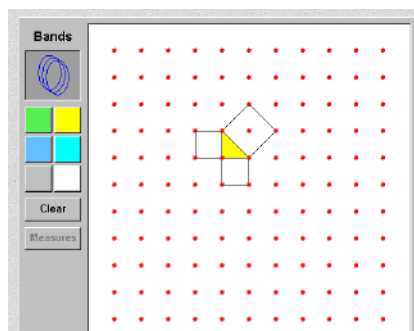
A. Each row on the table below represents a right triangle.

Length of Leg 1	Length of Leg 2	Area of square on Leg 1	Area of square on Leg 2	Area of square on hypotenuse	Length of hypotenuse <i>3.1 Follow-up 1&2</i>
1	1	1	1	2	
1	2				
2	2				
1	3				
2	3				
3	3				

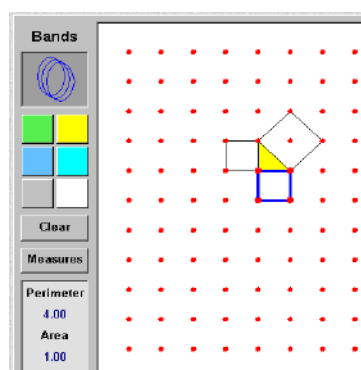
Use the Geoboard activity on Virtual Manipulatives Website.

http://matti.usu.edu/nlvm/nav/frames_asid_282_g_3_t_3.html?open=activities

For each row on the chart above, draw a right triangle with the leg lengths given. Then draw a square on each side of the triangle. I have done the first triangle below.



B. For each triangle, use the applet to find the areas of the squares on the legs and on the hypotenuse. To find the area of a square, either draw the square on grid paper and calculate the area or highlight the rubber band and click on the “measures” key. The area will be given on the screen. Record your results in the table above.



C. Look for a pattern in the relationship among the areas of the three squares drawn for each triangle. What conjecture can you make about the relationships among the areas of the squares on the sides of a triangle?

D. Draw two more right triangles with the side lengths that are different from those given in the table. Record the dimensions on the table.

Does your conjecture work with these examples as well?

3.1 Follow-up:

1. For each row, record the length of the hypotenuse on the chart. Use the square root symbol $\sqrt{\quad}$.
2. Approximate the length of each hypotenuse to the hundredths place.

Summary reflection question:

Suppose you are given the lengths of the legs of a right triangle. Describe how you can find the length of the hypotenuse.