

Activities for Chapter 9**Activity 1: Pythagorean Puzzle**

For this activity you will need a copy of the Pythagorean Puzzle handout, scissors, and a protractor.

1. Measure the three angles of $\triangle XYZ$.

$$m\angle X = \underline{\hspace{2cm}} \quad m\angle Y = \underline{\hspace{2cm}} \quad m\angle Z = \underline{\hspace{2cm}}$$

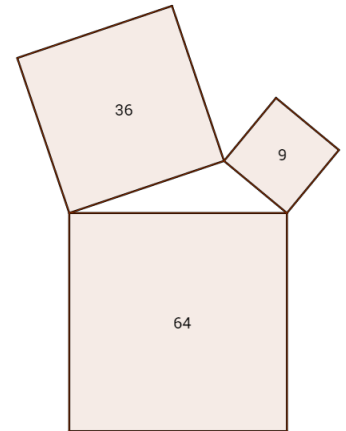
2. Fill in the blank: $\triangle XYZ$ is a _____ triangle.
3. Cut out Square A and the four pieces of Square B. Put them together to form Square C.
4. What conclusion can you make about the sum of the areas of Square A and Square B as compared to the area of Square C?
5. How does this relate to the Pythagorean Theorem?
6. Would this have worked if $\triangle XYZ$ was an acute or obtuse triangle?

Activity 2: Right or not?

For this activity, you will need a “Right or not?” handout and scissors.

Cut out the squares with areas 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, and 169.

Put three squares together as in the picture to the right to form a triangle, and determine whether that triangle is acute, right, or obtuse. If necessary, compare the angles of the triangles to the corner of an index card to determine if the angles are acute, right, or obtuse.



Complete the table below. Some examples have been started for you.

Triangle side lengths a, b, c in order of smallest to largest	$a^2 + b^2 =$	$c^2 =$	Is the triangle acute, right, or obtuse?
3, 6, 8	$9 + 36 = 45$	64	obtuse
6, 8, 10			
4, 5, 6			

Use the data from the table to complete the following statements.

- If the square of the length of the longest side of a triangle is **less than** the sum of the squares of the lengths of the two shorter sides (Column 4 is less than Column 3), then the triangle is a(n):
- If the square of the length of the longest side of a triangle is **equal to** the sum of the squares of the lengths of the two shorter sides, then the triangle is a(n):
- If the square of the length of the longest side of a triangle is **less than** the sum of the squares of the lengths of the two shorter sides, then the triangle is a(n):