M9

Pythagorean Theorem Review Activity

1. Colour in the two large squares (Figure 1 and Figure 2) **in two different colours.** Make sure you can still see the lines inside Figure 1.

2. Colour in the triangle (Figure 3) in a different colour than the squares.

3. Cut out both squares. **Put one square on top of the other square** to see that they perfectly overlap.

   Note: the process of putting one 2D object over another 2D object is called **superposition.**

4. Following the given lines in Figure 1, cut the square into 5 pieces.

5. Cut out the triangle.

6. Using a blank sheet of paper (page 3), glue the triangle approximately in the middle of the page.

7. Glue intact square (Figure 2) above the hypotenuse of the triangle.

8. Manipulate the remaining 5 pieces in such a way that they form two squares.

9. Glue the two smaller square next to the legs of the triangle.

10. Label the following:

    - Hypotenuse
    - Leg
    - Leg
    - Right angle
    - Square of the hypotenuse
    - Square of the shorter leg
    - Square of the longer leg

11. Show your work to your teacher before proceeding with step 12.

12. Label the vertices of the triangle with letters A, B and C. **Make sure that the vertex C is at the right angle.**

13. Label the sides of the triangle using lower-case letters a,b,c.

M9

Proving the Pythagorean Theorem by Construction

Figure 1:

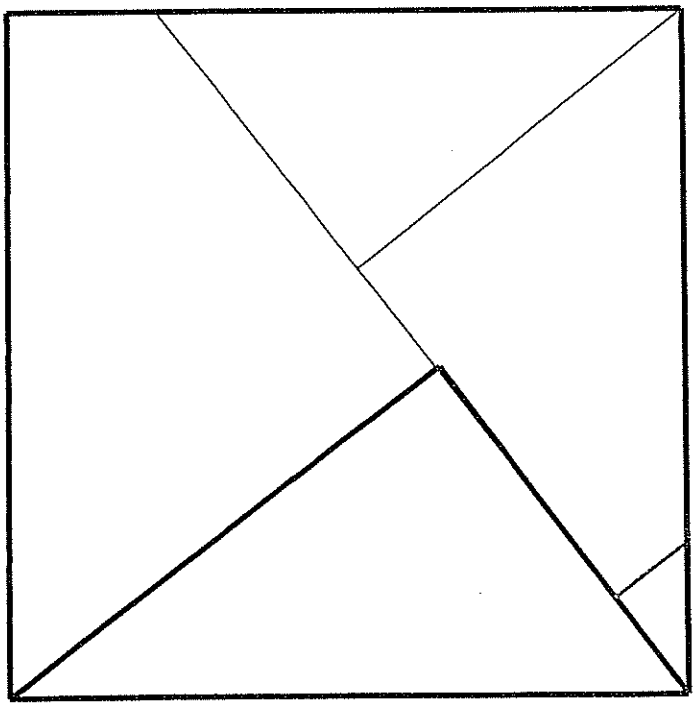


Figure 2:

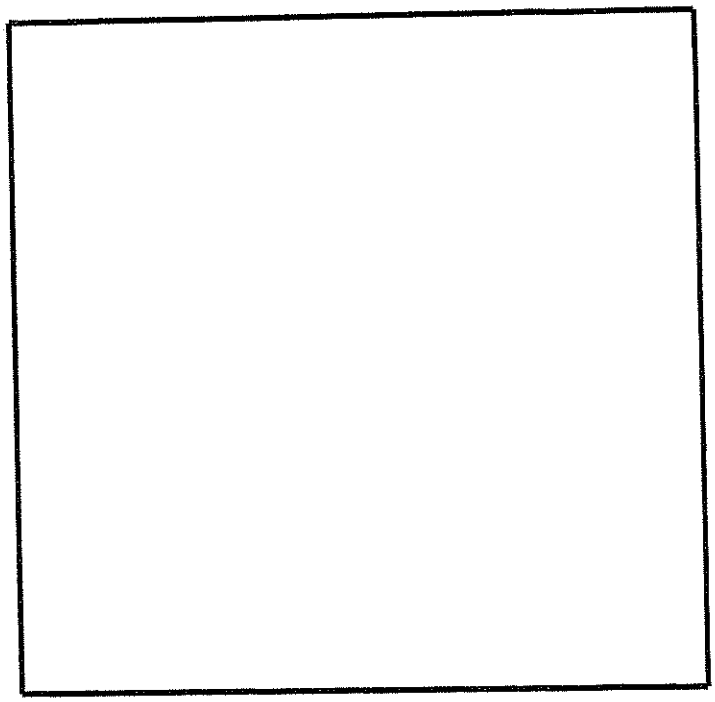
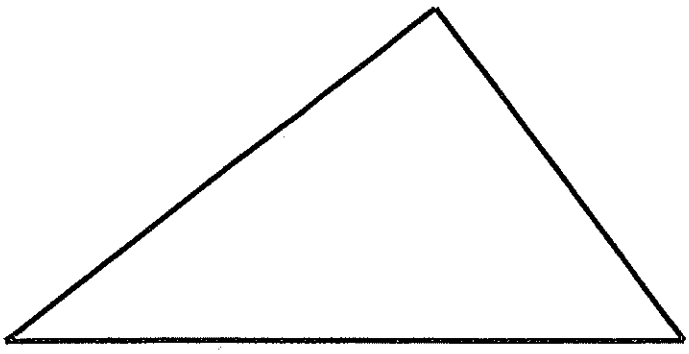


Figure 3:

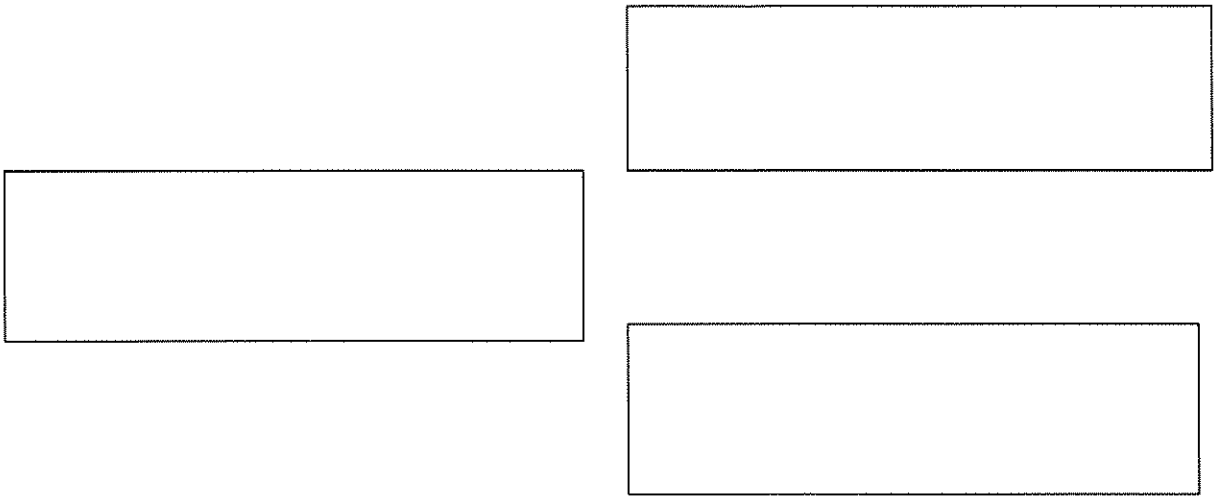


 Name:_____

PYTHAGOREAN THEOREM

Turn the page.

1. **Write three equations that can be used to express the Pythagorean Theorem for triangle ACB:**



2. Write down the Pythagorean Theorem using words **not** equations.