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| **Homework Day 8: Compositions and Single Transformations** |

 **Part 1: Graph the pre-image and image on the graph below AND label the vertices. Then, write a description of the transformation given by the coordinates below. Finally, write an algebraic rule for the transformation. (Hint: for help with the Algebraic Rules, look at earlier notes pages.)**

1.  2. 

Description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3.  4. 

 Description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5.  6. 

Description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part 2: Describe the transformations on the graph verbally and by writing an algebraic rule.
Hint: The triangle with dotted lines is the preimage.**

**B’**



**A’**

**B**

**A**

**CA**

7. 8. 9.

**B**

**A**

**B**

**C’A**

**CA**

**B’**

**A**

**C’A**

**CA**

**B’**

**C’A**

**A’**

**A’**

Description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Description: \_\_\_\_\_\_\_\_\_\_\_\_

Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_ Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_ Algebraic Rule: \_\_\_\_\_\_\_\_\_\_

**A**



**A**

**B’**

**B**

10. 11. 12.

**B**

**C’**

**A**

**CA**

**CA**

**CA**

**B**

**C’A**

**B’**

**A’A**

**A’**

**A’**

**B’**

**C’A**

Description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Description: \_\_\_\_\_\_\_\_\_\_\_\_

Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_ Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_ Algebraic Rule: \_\_\_\_\_\_\_\_\_\_

**Part 3: Given the description, write an algebraic rule to represent the transformation. Then graph the pre-image and image on the graph below. Use with A(2,-2), B(3,1), and C(1,2).**

13) is dilated by 2 about the origin

Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15) is rotated 180˚ then dilated
 by a factor of 2 about the origin

Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

17) is reflected over y = -x and moved
 up 2

Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14) is moved up 4 and 2 to the right

Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16) is reflected over the y-axis then
 dilated by a factor of 2 about the origin.

Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

18) is reflected over the x-axis, then dilated by ½ (about the origin), then moved down 2 and left 1.

Algebraic Rule: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_