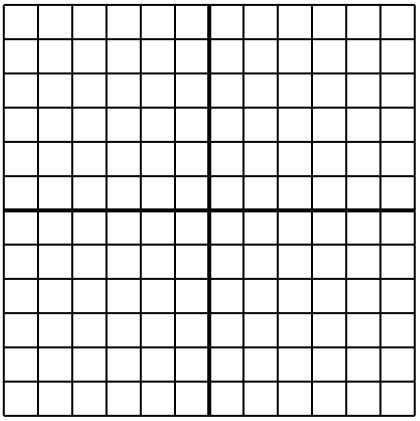
Homework Day 5: Compositions and Single Transformations

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. The coordinates of $\triangle ABC$ are A(2, 1), B(3, 5), C(0, 4).
The coordinates of $\triangle A'B'C'$ are A'(2, -1), B'(3, -5), C'(0, -4).

Description: _____

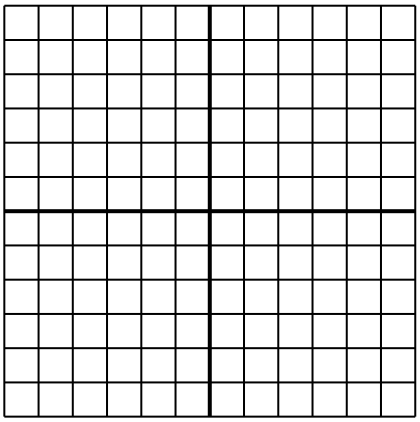
Algebraic Rule: _____



2. The coordinates of $\triangle ABC$ are A(-2, 3), B(4, 0), C(-1, -4).
The coordinates of $\triangle A'B'C'$ are A'(0, 0), B'(6, -3), C'(1, -7).

Description: _____

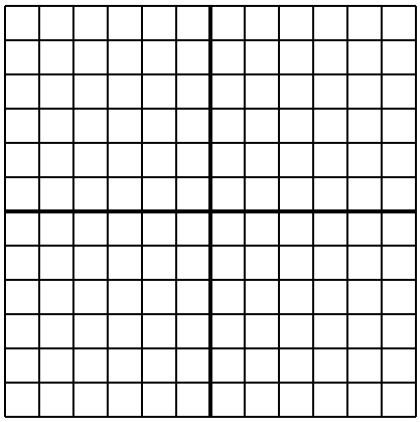
Algebraic Rule: _____



3. The coordinates of $\triangle ABC$ are A(-3, -2), B(-2, 3), C(1, 3).
The coordinates of $\triangle A'B'C'$ are A'(-6, -4), B'(-4, 6), C'(2, 6).

Description: _____

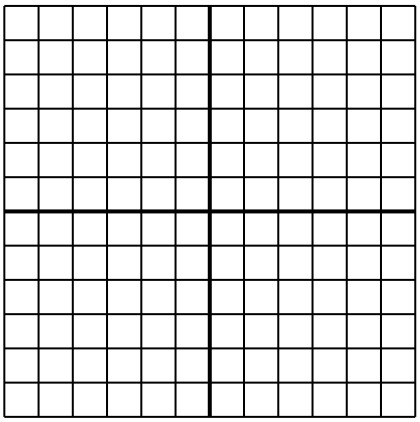
Algebraic Rule: _____



4. The coordinates of $\triangle ABC$ are A(-3, 1), B(-2, -1), C(2, 2).
The coordinates of $\triangle A'B'C'$ are A'(3, 1), B'(2, -1), C'(-2, 2).

Description: _____

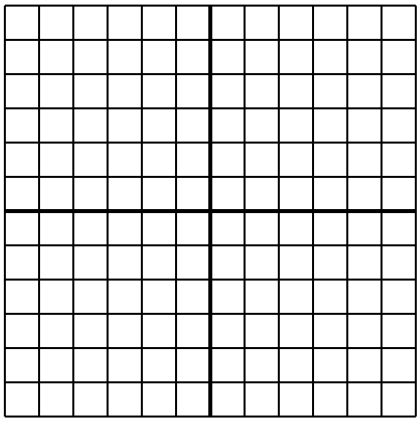
Algebraic Rule: _____



5. The coordinates of $\triangle ABC$ are A(-1, 1), B(0, 3), C(-3, 1).
The coordinates of $\triangle A'B'C'$ are A'(1, 1), B'(3, 0), C'(1, 3).

Description: _____

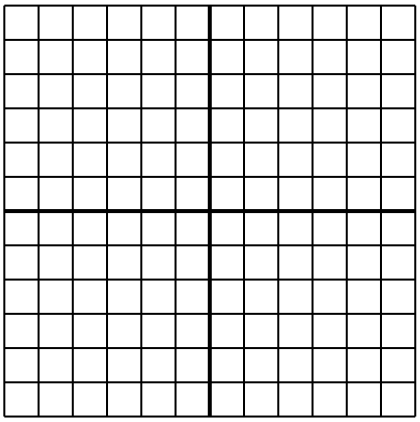
Algebraic Rule: _____



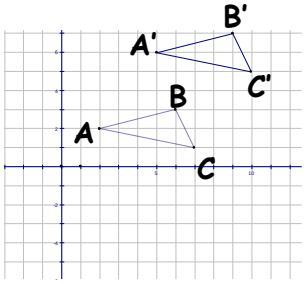
6. The coordinates of $\triangle ABC$ are A(-3, 0), B(-2, 3), C(1, -3).
The coordinates of $\triangle A'B'C'$ are A'(6, 0), B'(4, -6), C'(-2, 6).

Description: _____

Algebraic Rule: _____

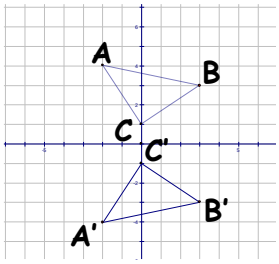


<u>Part 2</u>: Describe the transformations on the graph verbally and by writing an algebraic rule. Hint: The triangle with dotted lines is the preimage.

7. 

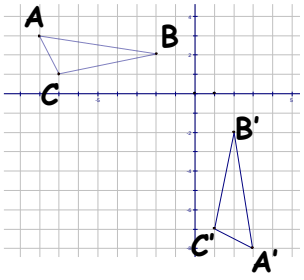
Description: _____

Algebraic Rule: _____

8. 

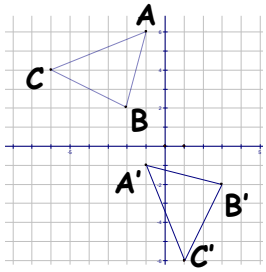
Description: _____

Algebraic Rule: _____

9. 

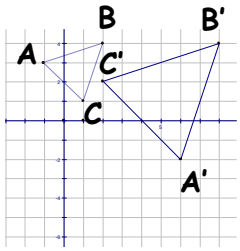
Description: _____

Algebraic Rule: _____

10. 

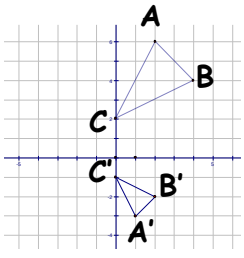
Description: _____

Algebraic Rule: _____

11. 

Description: _____

Algebraic Rule: _____

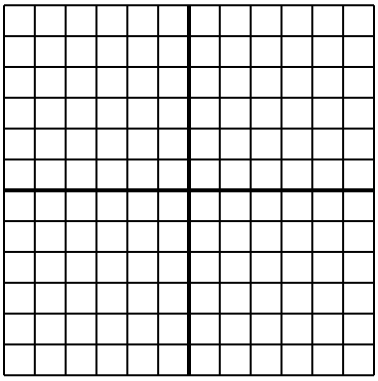
12. 

Description: _____

Algebraic Rule: _____

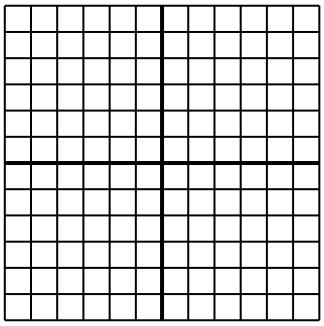
<u>Part 3</u>: Given the description, write an algebraic rule to represent the transformation. Then graph the pre-image and image on the graph below. Use ΔABC with A(2,-2), B(3,1), and C(1,2).

13) ΔABC is dilated by 2 about the origin



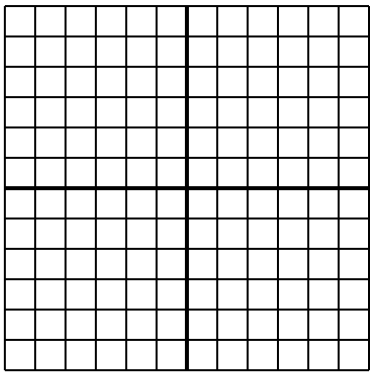
Algebraic Rule: _____

14) ΔABC is moved up 4 and 2 to the right



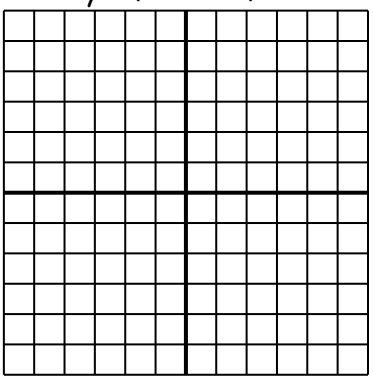
Algebraic Rule: _____

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



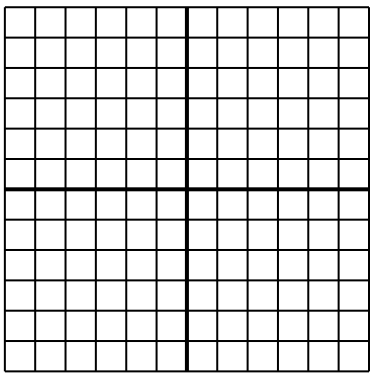
Algebraic Rule: _____

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



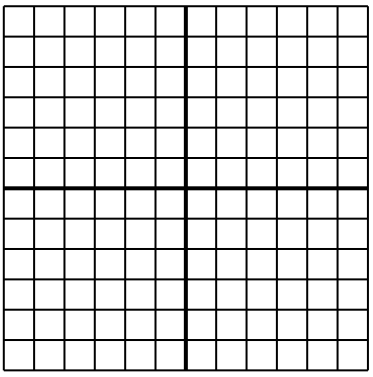
Algebraic Rule: _____

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



Algebraic Rule: _____

18) ΔABC is reflected over the x-axis, then dilated by $\frac{1}{2}$ (about the origin), then moved down 2 and left 1.



Algebraic Rule: _____