GSE Geometry HW Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Transformations and Reflections Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block:\_\_\_\_\_\_\_\_

1. **Use the translation (x, y) 🡪 (x + 5, y – 9)**$\left(x, y\right) \rightarrow \left(x+5, y-9\right)$ **for questions a-e.**
2. What is the image of A (-6, 3)$A(-6, 3)$?
3. What is the image of (4, 8)$(4, 8)$?
4. What is the image of (5, -3)?
5. What is the image of A’ from #1, which would be called A’’?
6. What is the pre-image of D’(12, 7)$D^{'}(12, 7)$?
7. **The vertices of **$∆ABC$ **are A(-6, -7), B(-3, -1), and C(-5, 2)**$A\left(-6, -7\right);B(-3, -10)$$C(-5, 2)$**. Find the vertices of **$∆A^{'}B^{'}C^{'}$**, given the translation rules below.**
8. (x, y) 🡪 (x – 2, y – 7)$\left(x, y\right) \rightarrow \left(x-2, y-7\right)$
9. (x, y) 🡪 (x + 11, y + 4)$\left(x, y\right) \rightarrow \left(x+11, y+4\right)$
10. (x, y) 🡪 (x, y - 3)$\left(x, y\right) \rightarrow \left(x, y-3\right)$
11. (x, y) 🡪 (x – 5, y + 8)$\left(x, y\right) \rightarrow \left(x-5, y+8\right)$

**3. **$∆A^{'}B^{'}C^{'}$ **is the image of**$∆ABC$**. Write the translation rule.**





a. b.



c. d.



**4. Find the line of reflection between the pre-image and the image.**

a. b. c.

  

**5. Two Reflections The vertices of** $∆ABC$** are A(-5, 1), B(-3, 6), and C(2, 3). Use this information to answer questions a-d.**

1. Plot ****$∆ABC$ on the coordinate plane.
2. Reflect $∆ABC$****over y =1$y=1$. Find the coordinates of ****$∆A'B'C'$.
3. Reflect ****$∆A'B'C'$ over y = -3$= -3$. Find the coordinates of ****$∆A''B''C''$.
4. What one transformation would be the same as this double reflection?

**6. Two Reflections The vertices of** $∆ABC$** are A(6, -2), B(8, -4), and C(3, -7). Use this information to answer questions a-d.**

1. Plot ****$∆ABC$ on the coordinate plane.
2. Reflect $∆ABC$****over x = 2$y=1$. Find the coordinates of****$∆A'B'C'$.
3. Reflect ****$∆A'B'C'$ over x = -4$= -3$. Find the coordinates of ****$∆A''B''C''$.
4. What one transformation would be the same as this double reflection?