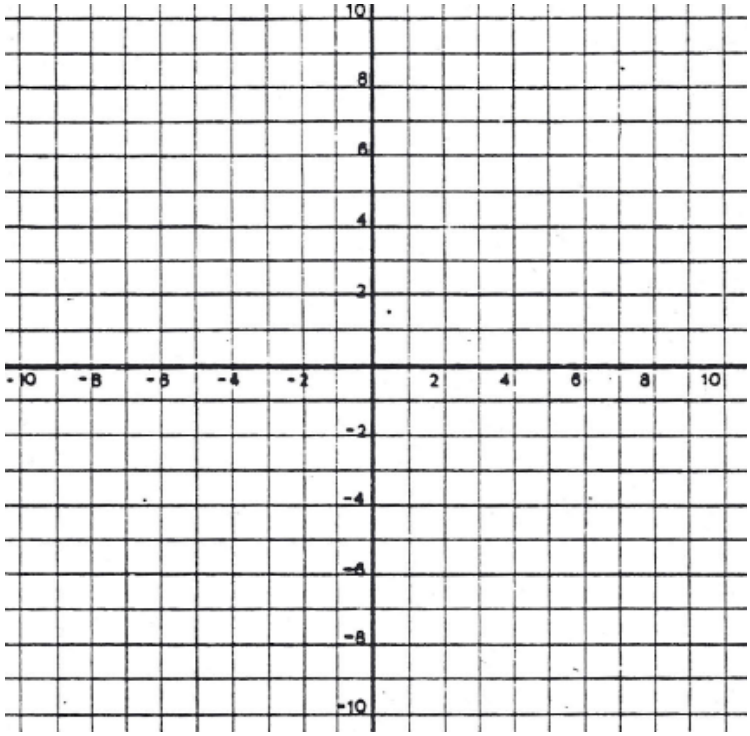
Geometry HW#____ Name_____

14-5, 14-8, and Review

Dilations and Line Symmetry Per_____Col____ Date_____

Use the graph grid as needed for #1-8.
Given: A (4, 0), B (4, 6), C (2, -2)



1. a dilation with center (0, 0) and scale factor 3 maps C onto which point?

2. a dilation with center (0, 0) and scale factor -1/2 maps C onto which point?

3. a dilation with center A and scale factor 1/2 maps B onto which point?

4. a dilation with center C and scale factor -2 maps A onto which point?

5. a dilation with center (0, 0) and scale factor 2 followed by a reflection in the line $y = x$ maps A onto which point?

6. a dilation with center C and scale factor 1/2 followed by a half-turn with center (0, 0) maps B onto which point?

7. a -90° rotation about the origin followed by a reflection in the x-axis maps B onto which point?

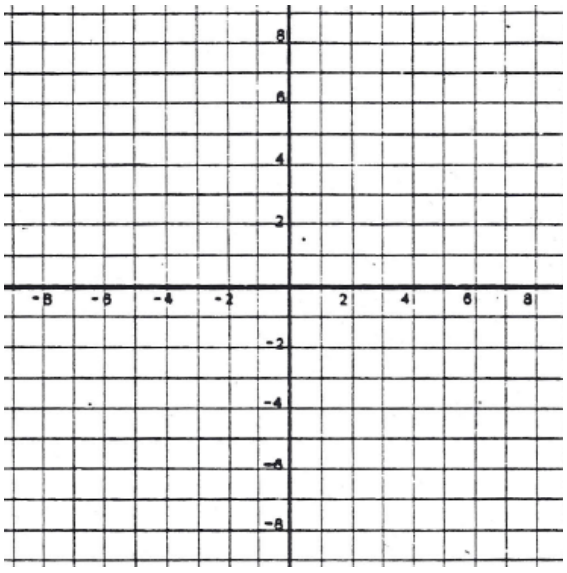
8. Write the rule for the dilation with center (0, 0) that maps (1, 0) onto A.

9. If a dilation with center (0, 0) maps $(x, y) \rightarrow (-5x, -5y)$, then $(2, -4) \rightarrow (\quad, \quad)$.
   Is this an expansion or a contraction?

10. If a dilation with center (0, 0) maps $(x, y) \rightarrow \left(\frac{1}{3}x, \frac{1}{3}y\right)$, then $(\quad, \quad) \rightarrow (-1, -3)$.
    Is this an expansion or a contraction?

11. Under a dilation with center (0, 0), $(-14, 8) \rightarrow (7, -4)$. What is the scale factor?
    Is this an expansion or a contraction?

12. Graph ΔABC with A (-2, 3), B (0, -4), and C (4, 1). Draw the dilation image $\Delta A'B'C'$ with center of dilation (0, 0) and scale factor 2. List the coordinates of the image points.

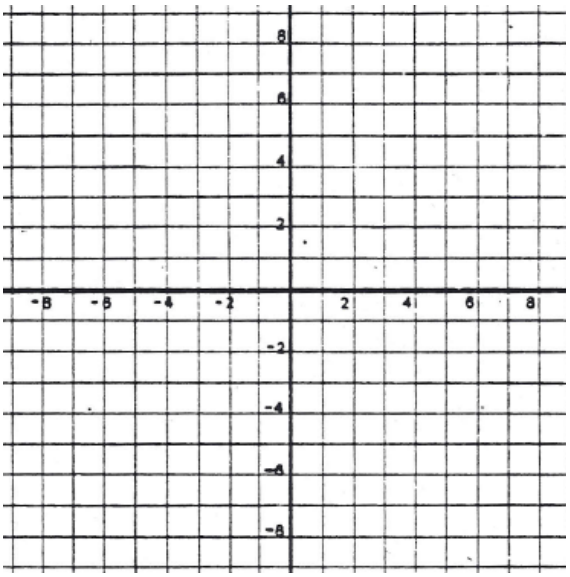


A'

B'

C'

13. Rotate ΔJKL 90° about the origin. Label the image $\Delta J'K'L'$ and list the coordinates of the image points.



J'

K'

L'

Draw all lines of symmetry for each figure.

14.

15.

16. Complete the figure so that it has symmetry in line k.