Geometry Unit 1 Transformations **Name:**_____

Day 13: Dilation Homework **Date:**_____ **Hour:** ____

Part A:

State whether a dilation using the scale factor k results in a reduction or an *enlargement* of the original figure.

1. $k = 3$

2. $k = \frac{1}{3}$

3. $k = \frac{5}{4}$

4. $k = 0.93$

A and B are the endpoints of $\overline{AB}$. Complete the coordinates of C and D, the endpoints of the image after a dilation of scale factor k.

5. $A(1, 1), B(3, 1), k = 2$

   $(x, y) \rightarrow (2x, 2y)$ $A(1, 1) \rightarrow C($_____, _____$)$ $B(3, 1) \rightarrow D($_____, _____$)$

6. $A(4, 4), B(8, 12), k = \frac{3}{4}$

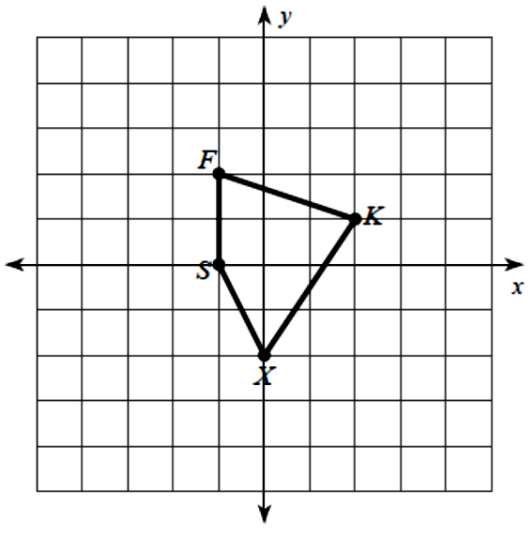
   $(x, y) \rightarrow \left(\frac{3}{4}x, \frac{3}{4}y\right)$ $A(4, 4) \rightarrow C($_____, _____$)$ $B(8, 12) \rightarrow D($_____, _____$)$

7. $A(0, 0), B(-3, 2), k = 5$

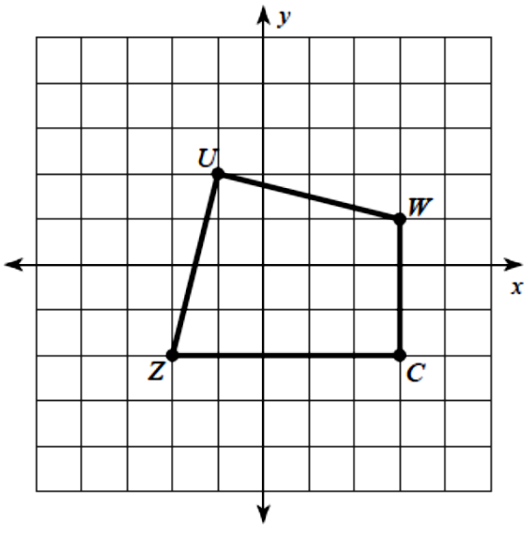
   $(x, y) \rightarrow (5x, 5y)$ $A(0, 0) \rightarrow C($_____, _____$)$ $B(-3, 2) \rightarrow D($_____, _____$)$

Part B. Graph the image of the figure using the transformation given. Write the ordered pairs.

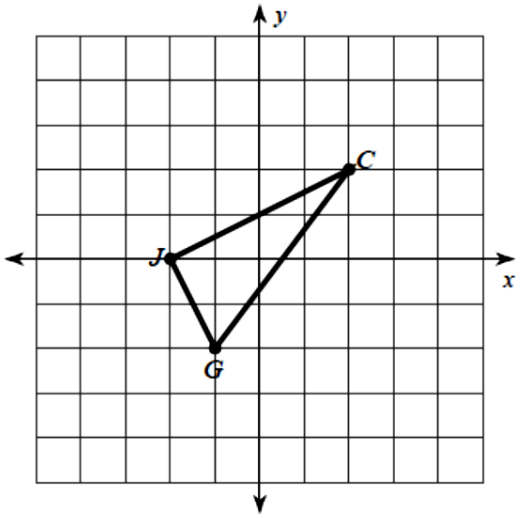
1) dilation of 2



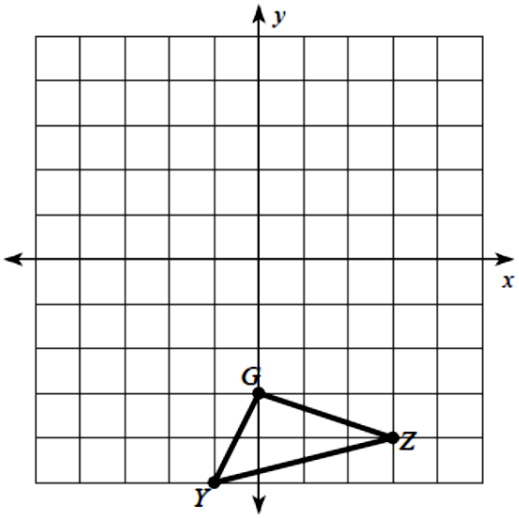
2) dilation of 1.5



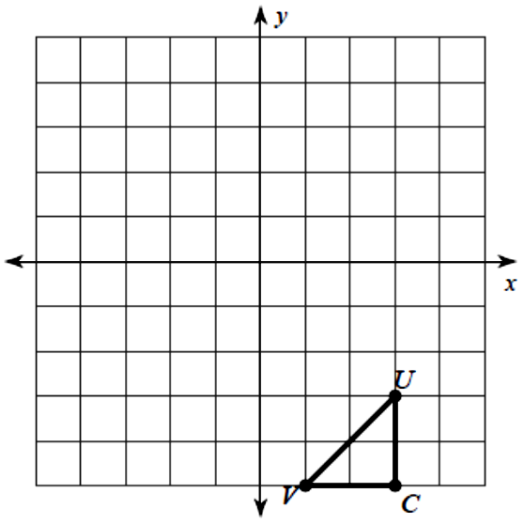
3) dilation of 2



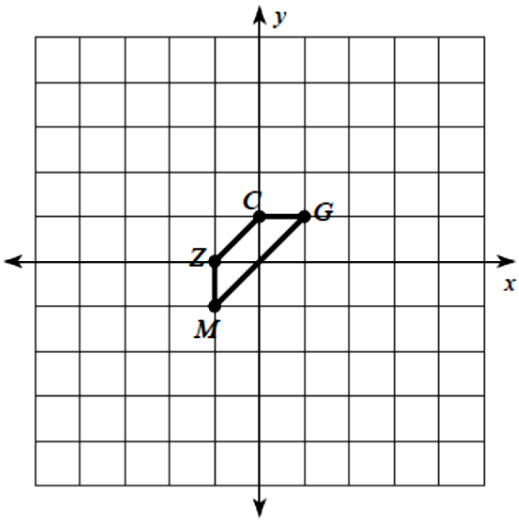
4) dilation of $\frac{1}{2}$



15) dilation of 0.5

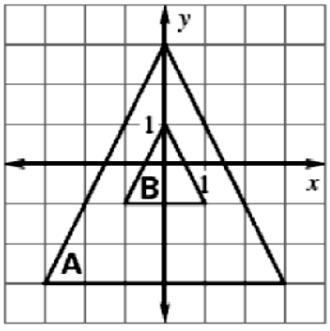


16) dilation of 4



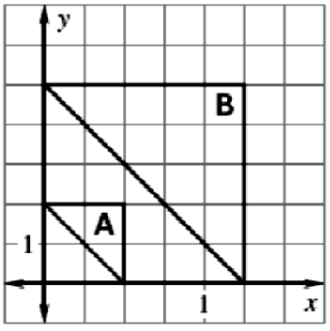
Determine whether the dilation from Figure A to Figure B is a *reduction* or an *enlargement*. Then find its scale factor.

23.



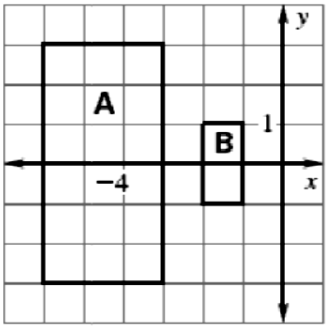
k = _____

24.



k = _____

25.



k = _____