Geometry Chapter 4 – Review for Retest Name_____

PS – Transformations Date_____Period_____

Show all work for full credit.

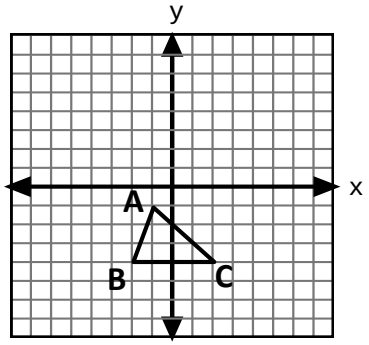
Translate the polygon shown with the given rule or vector. List the coordinates of the image vertices.

1. (x, y)→(x – 3, y + 4)

A′_____

B′_____

C′_____

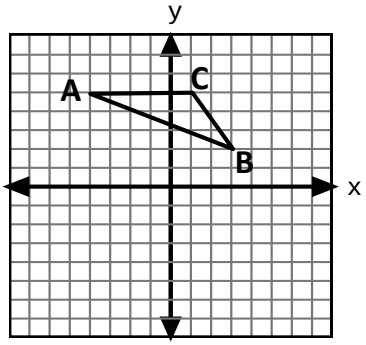


2. <-4, 2>

A′_____

B′_____

C′_____



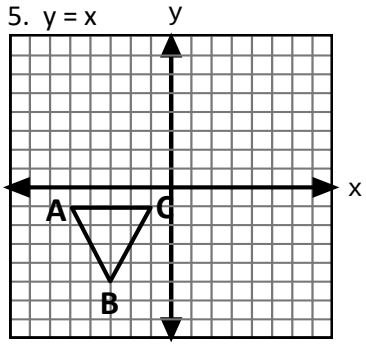
Use the translation rule to give the image of each point.

3. Give the image of K(8, 13) after (x, y)→(x + 5, y – 6)_____

4. Give the image of H(6, -2) after applying the translation vector < -4, -8 >_____

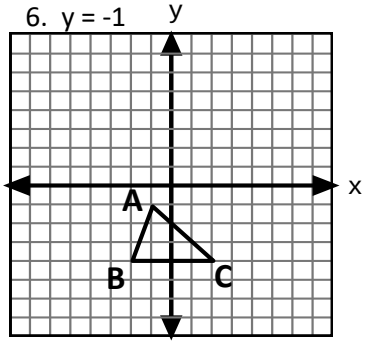
Reflect the polygon shown with the given line of reflection. List the coordinates of the image.

5. y = x



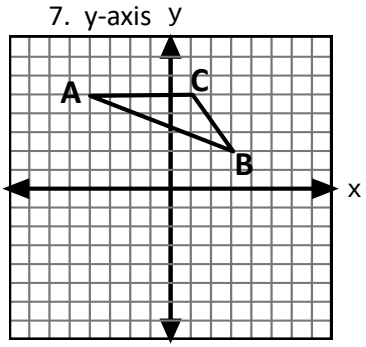
A′_____ B′_____ C′_____

6. y = -1



A′_____ B′_____ C′_____

7. y-axis



A′_____ B′_____ C′_____

Reflect each point in the given line. Give the coordinates of the image.

8. A(3, -2) in the x-axis _____

9. B(-1, 4) in x = 2 _____

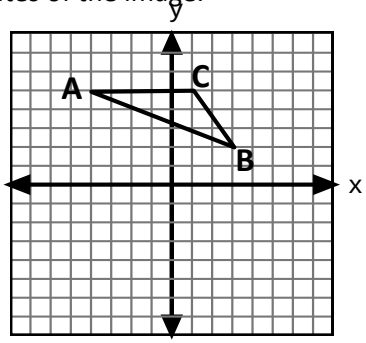
Graph the image of the polygon after a counterclockwise rotation of the given angle about the origin. List the coordinates of the image.

10. 270°

A′_____

B′_____

C′_____

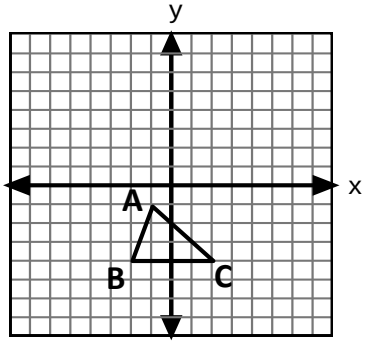


11. 90°

A′_____

B′_____

C′_____

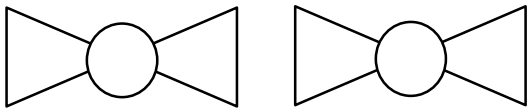


Each figure is given twice so that you may answer the following two questions:

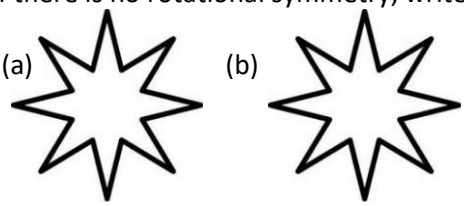
(a) Draw all lines of symmetry (if any exist). If no lines of symmetry exist, write, "None".

(b) Determine any rotations that map the figure onto itself. If there is no rotational symmetry, write, "None".

12. (a) (b)



13. (a) (b)



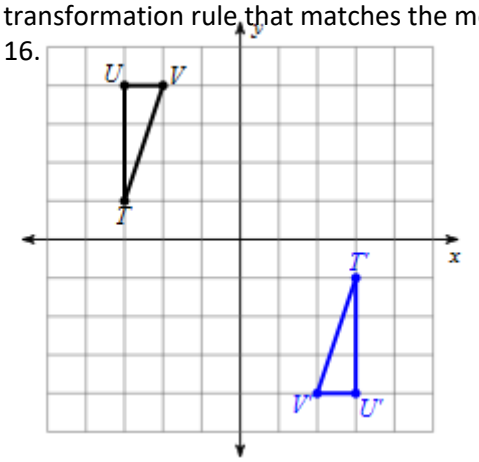
Rotate each point counterclockwise around the origin for the given angle. Give the coordinates of the image.

14. A(-3, -8) 180° _____

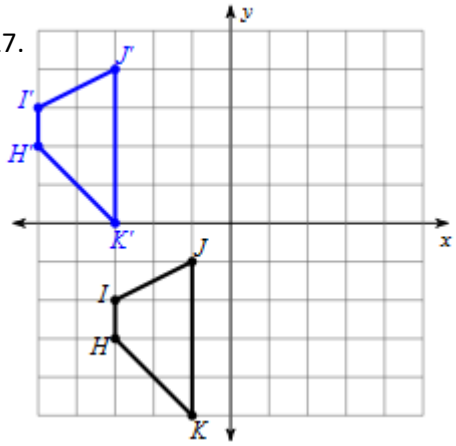
15. B(7, -9) 270° _____

Identify each transformation shown as a: translation, reflection, rotation, or dilation. Then describe a specific transformation rule that matches the move shown.

16.

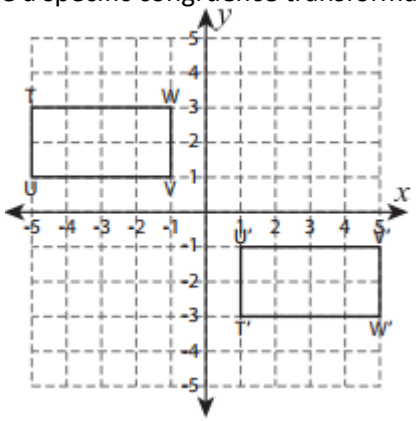


17.

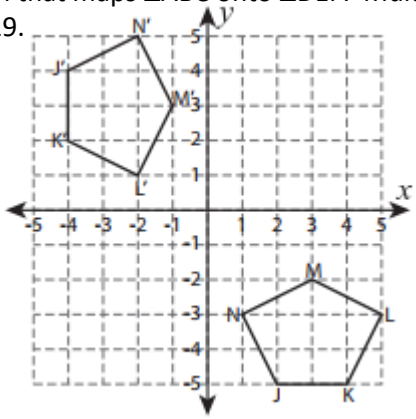


Give a specific congruence transformation that maps ΔABC onto ΔDEF. Multiple answers are possible.

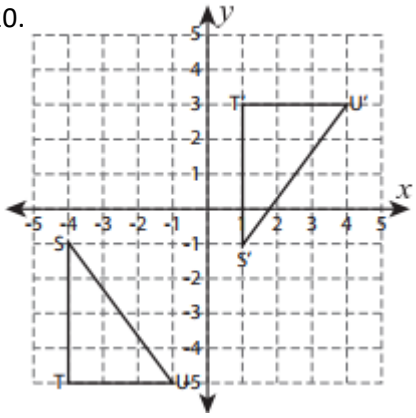
18.



19.

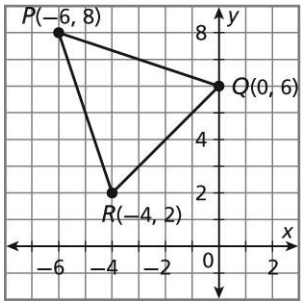


20.



21. Graph the image of the polygon shown after the dilation described. List the coordinates of the image.

$(x, y) \rightarrow (\frac{1}{2}x, \frac{1}{2}y)$



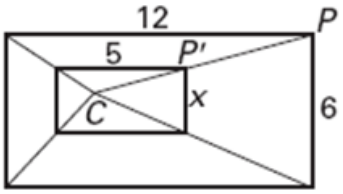
P′_____

Q′_____

R′_____

22. Use the diagram:

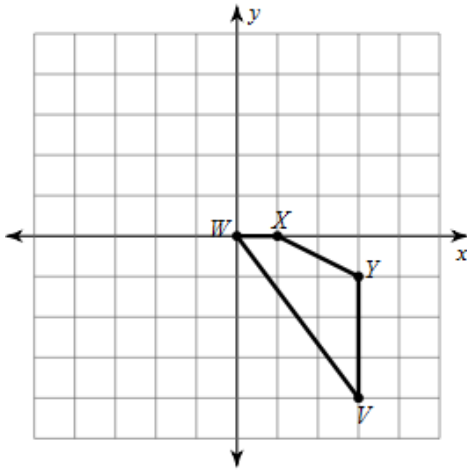
(a) Find the scale factor



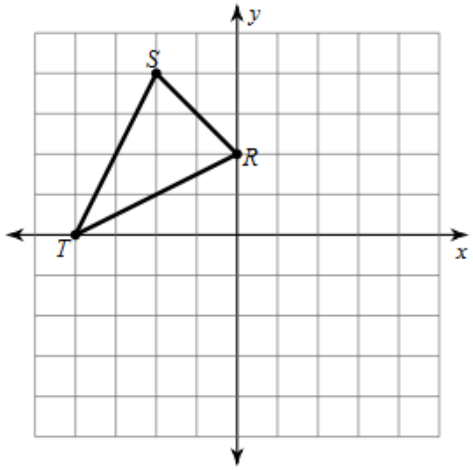
(b) Is the dilation is a reduction or enlargement?

Graph the image of the polygon after the composition. Label the name of each new vertex.

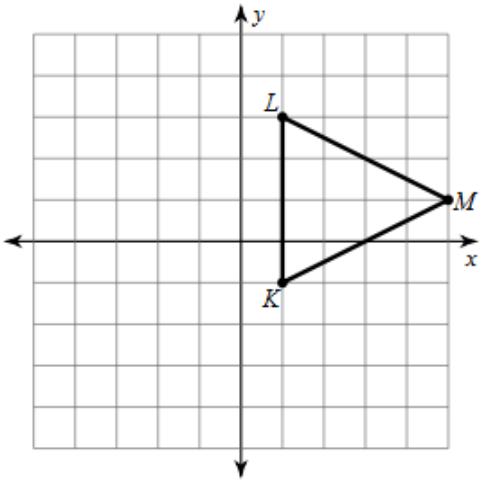
23. Translation: (x, y)→(x – 4, y + 5)
Reflection: in the x-axis



24. Rotation: 90° counterclockwise
Dilation: (x, y)→(0.5x, 0.5y)



25. Reflection: in the line x = 2
Translation: (x, y)→(x – 6, y – 4)



26. Give a similarity transformation that maps ABCDE onto PQRST.