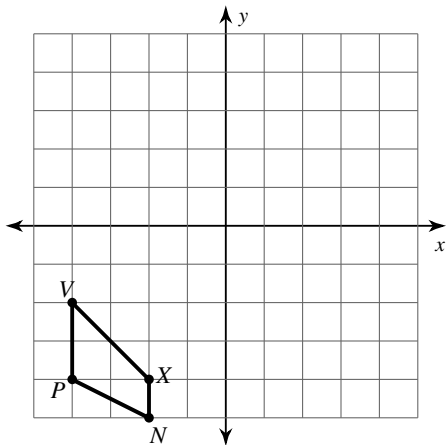


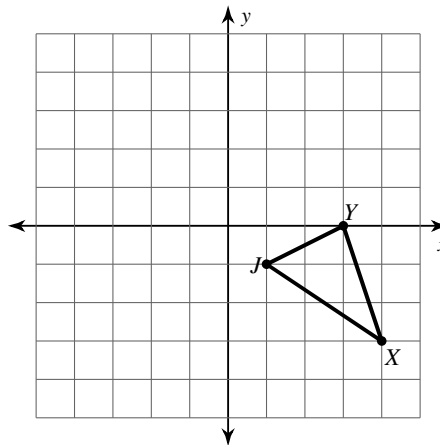
Reflections

Graph the image of the figure using the transformation given.

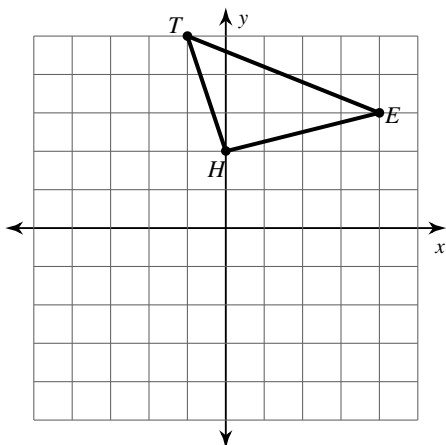
1) reflection across the y-axis



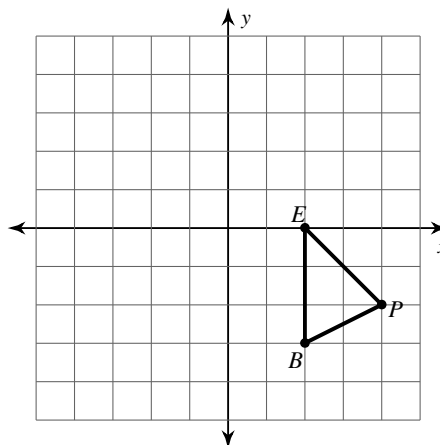
2) reflection across the x-axis



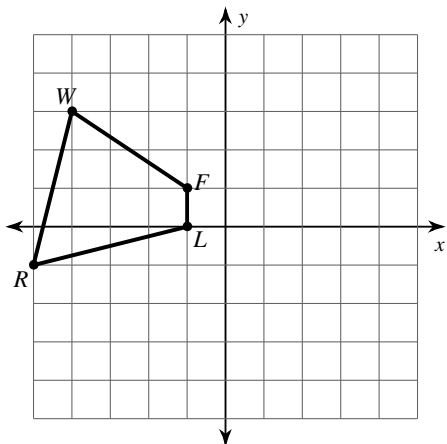
3) reflection across the y-axis



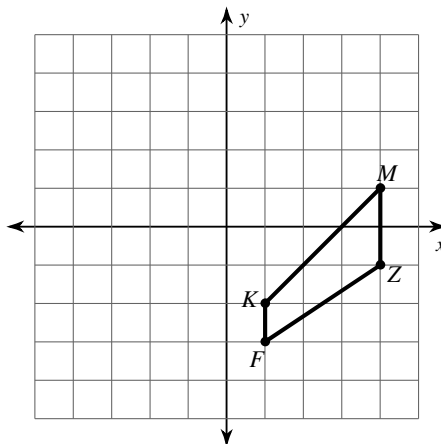
4) reflection across the x-axis



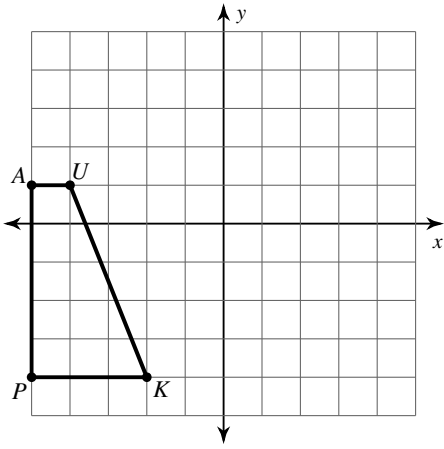
5) reflection across $y = -1$



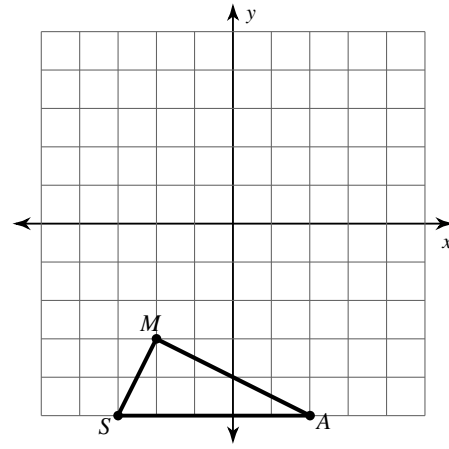
6) reflection across $y = -2$



7) reflection across $x = -2$

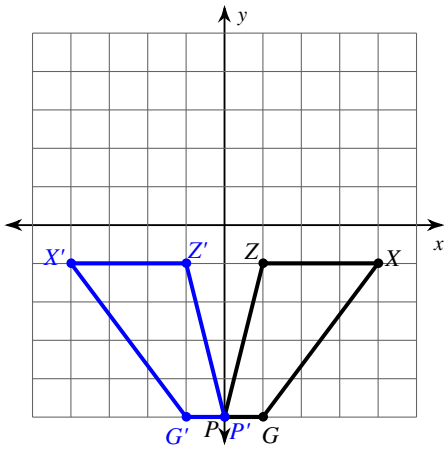


8) reflection across $x = 1$

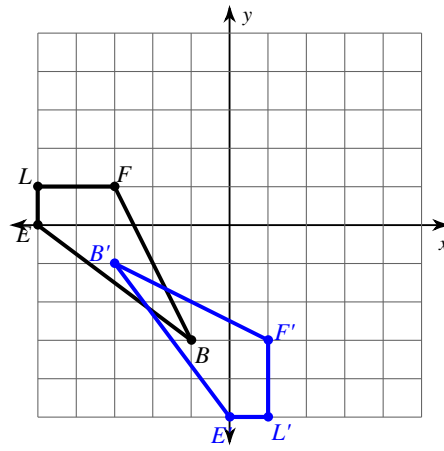


Write a rule to describe each transformation.

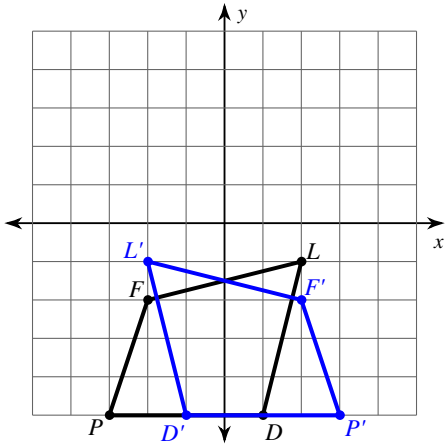
9)



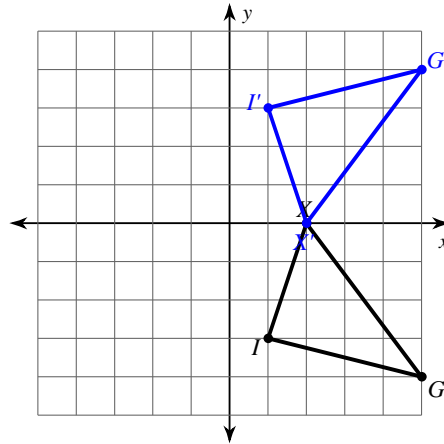
10)



11)



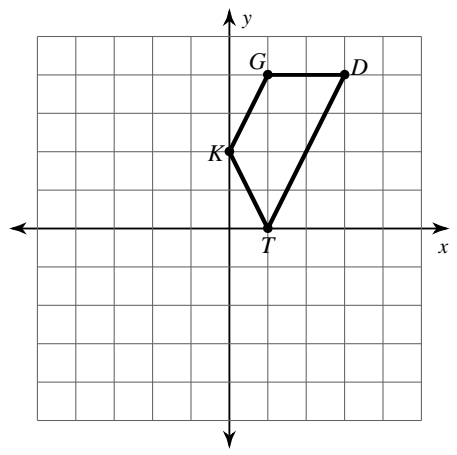
12)



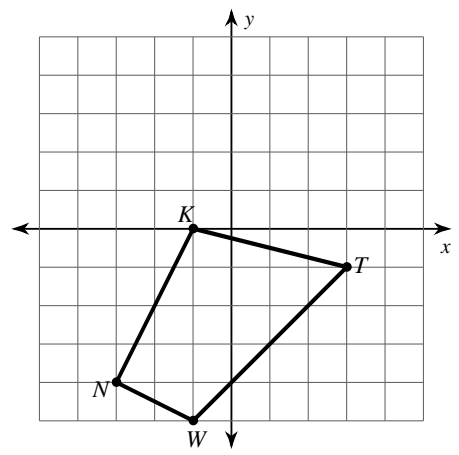
Translations

Graph the image of the figure using the transformation given.

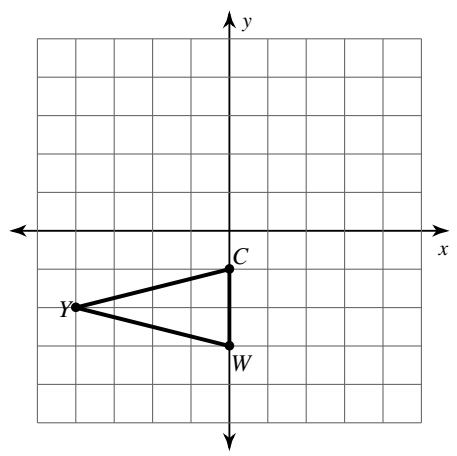
1) translation: 4 units down



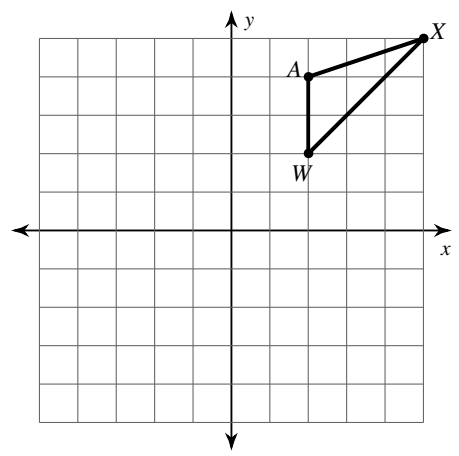
2) translation: 2 units up



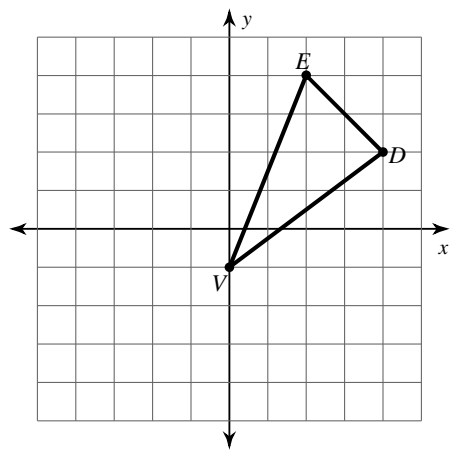
3) translation: 1 unit right



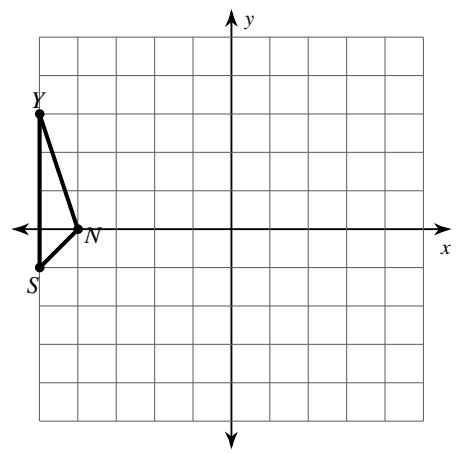
4) translation: 6 units left



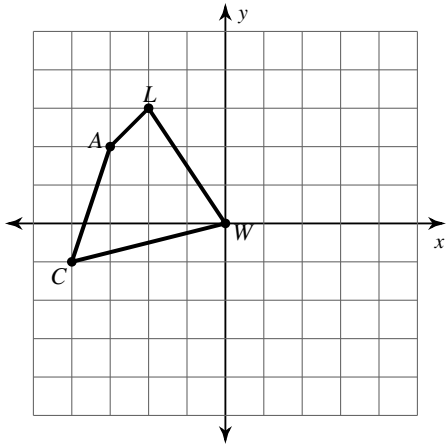
5) translation: 1 unit left and 1 unit down



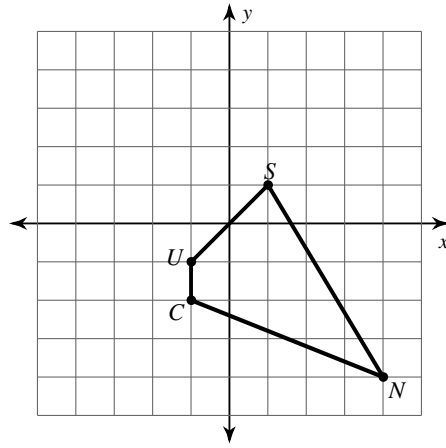
6) translation: 7 units right and 2 units up



7) translation: 2 units right and 1 unit down

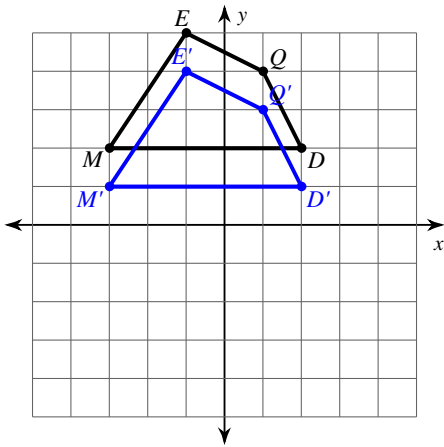


8) translation: 3 units left and 1 unit up

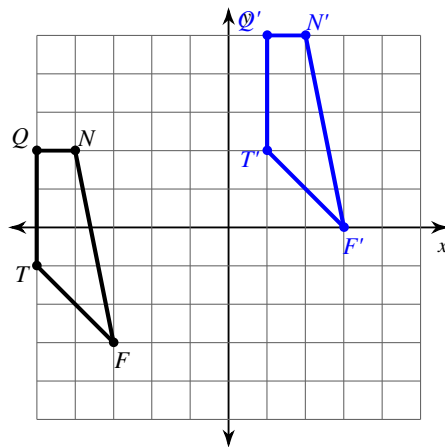


Write a rule to describe each transformation.

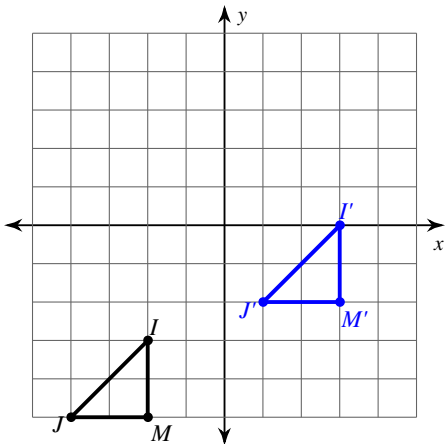
9)



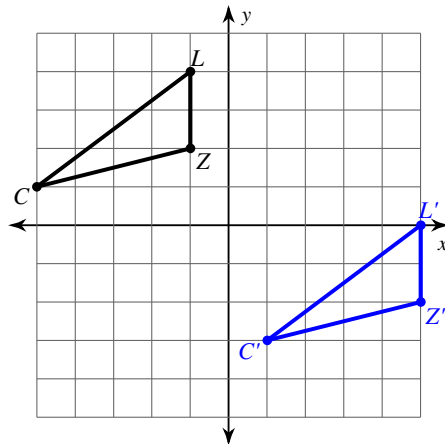
10)



11)



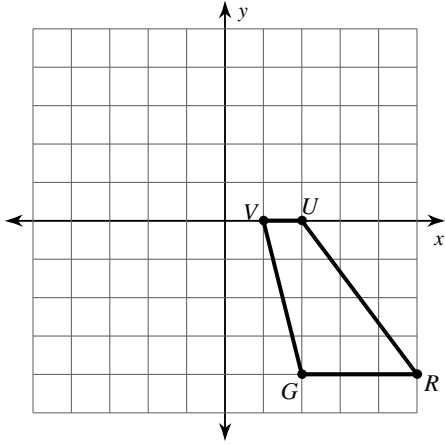
12)



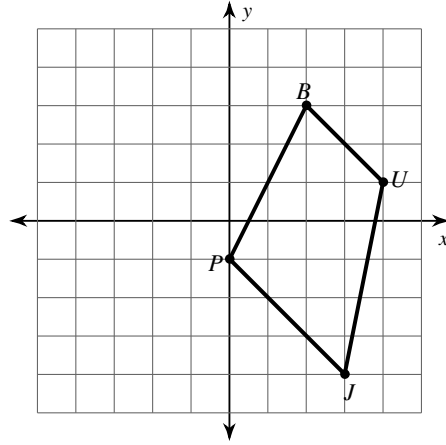
Rotations

Graph the image of the figure using the transformation given.

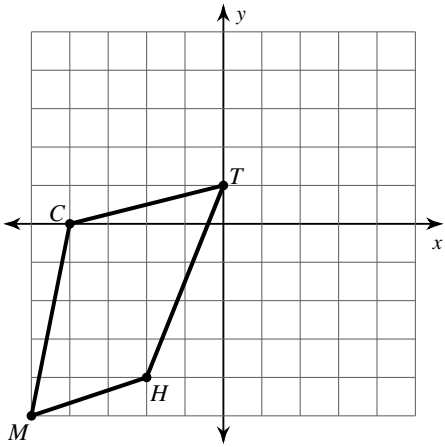
1) rotation 180° about the origin



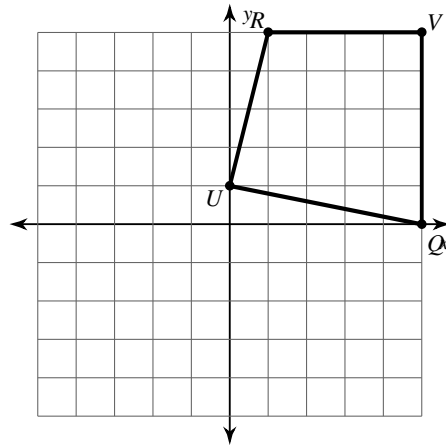
2) rotation 180° about the origin



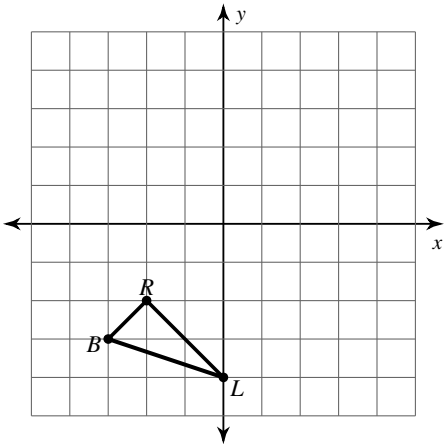
3) rotation 90° counterclockwise about the origin



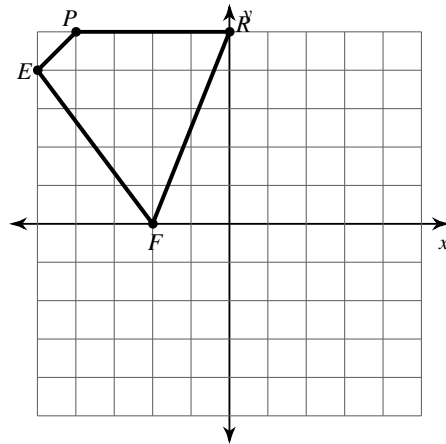
4) rotation 90° counterclockwise about the origin



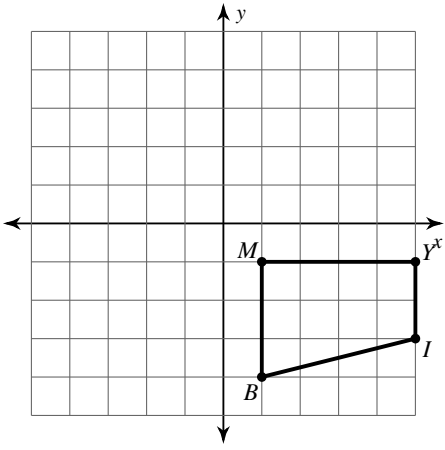
5) rotation 90° clockwise about the origin



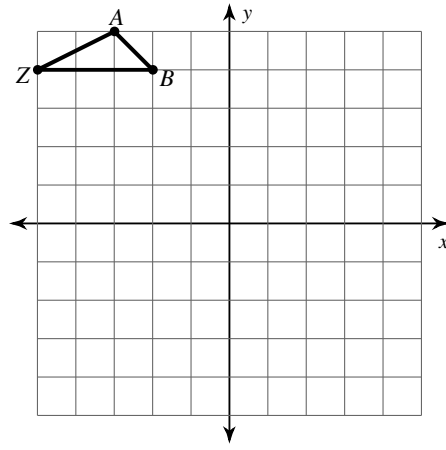
6) rotation 90° clockwise about the origin



7) rotation 90° clockwise about the origin

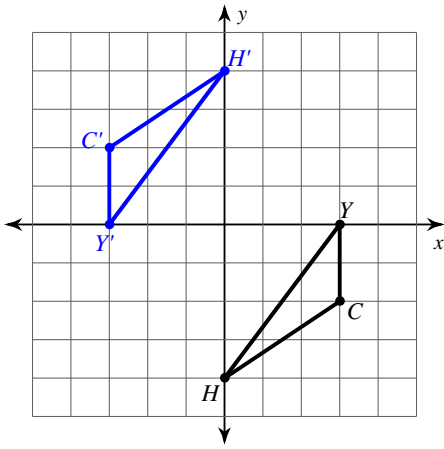


8) rotation 180° about the origin

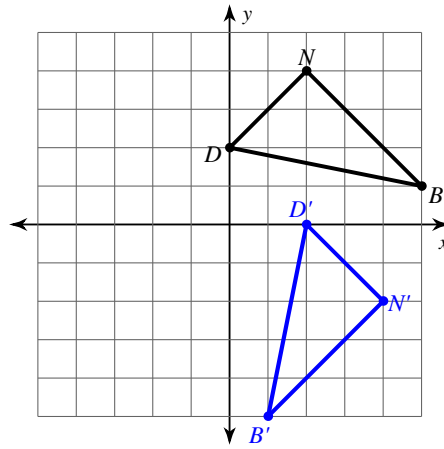


Write a rule to describe each transformation.

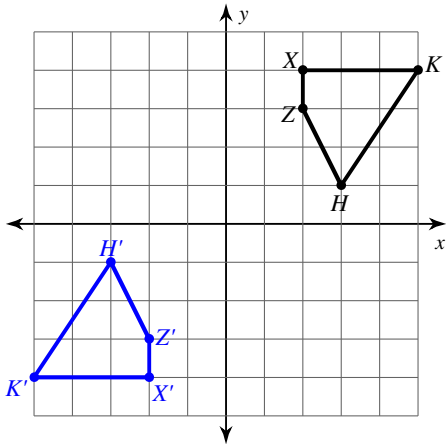
9)



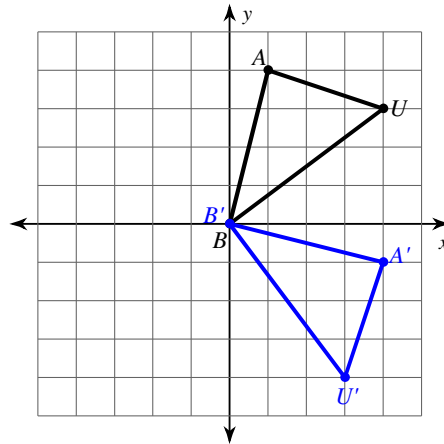
10)



11)



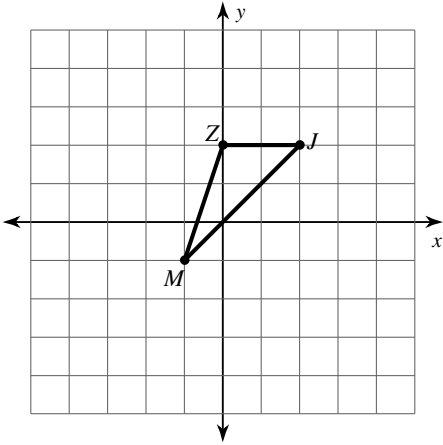
12)



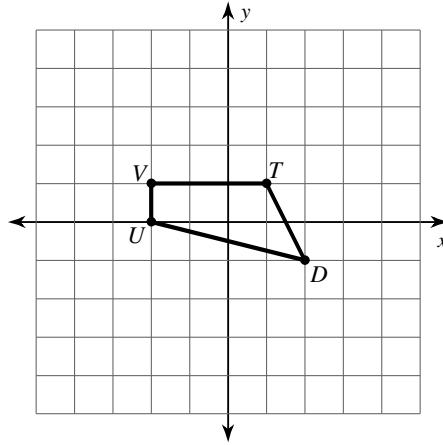
Dilations

Graph the image of the figure using the transformation given.

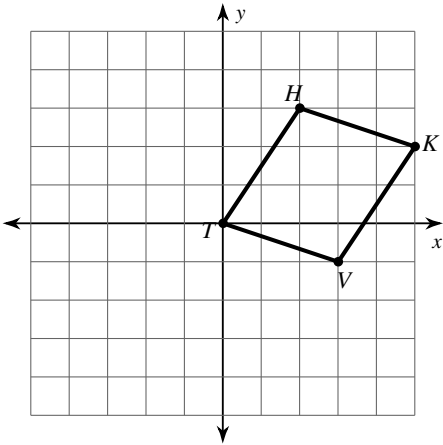
1) dilation of 2



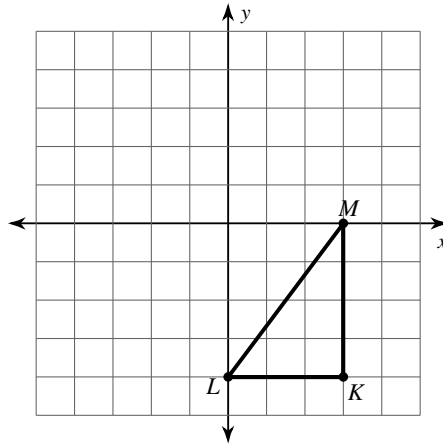
2) dilation of 2



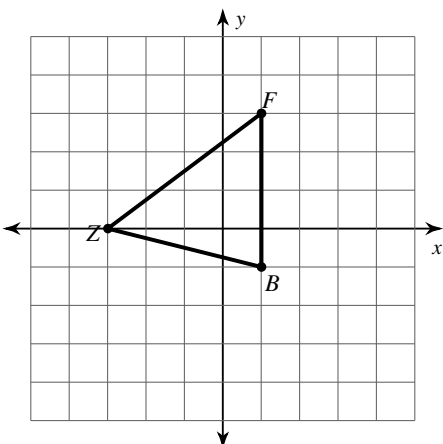
3) dilation of 0.5



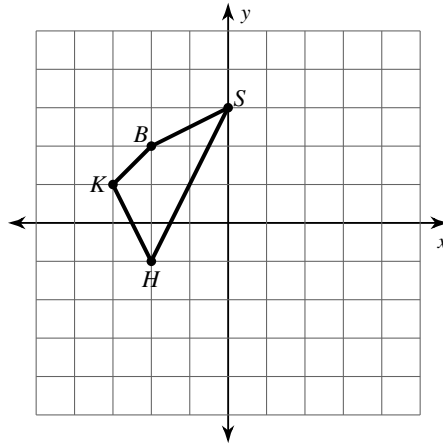
4) dilation of 0.5



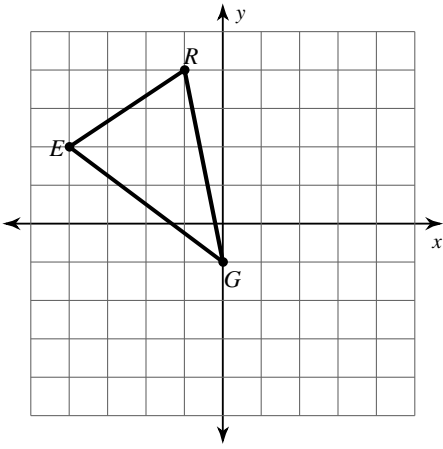
5) dilation of $\frac{3}{2}$



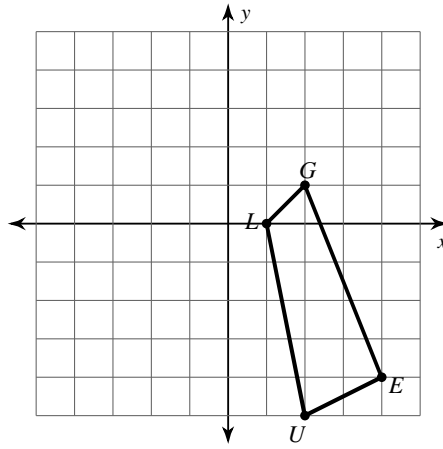
6) dilation of 1.5



7) dilation of 0.25

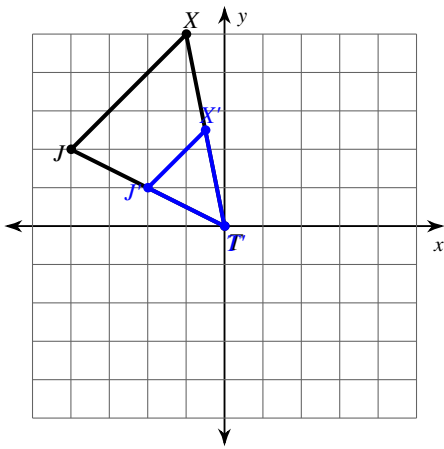


8) dilation of 0.25

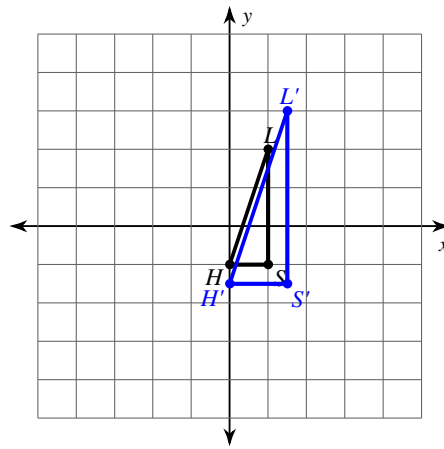


Write a rule to describe each transformation.

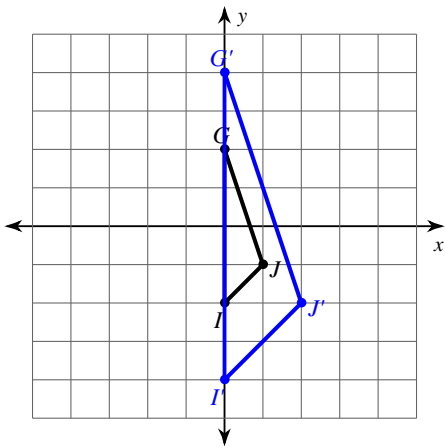
9)



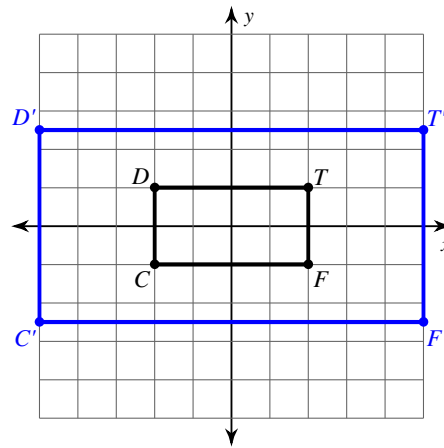
10)



11)

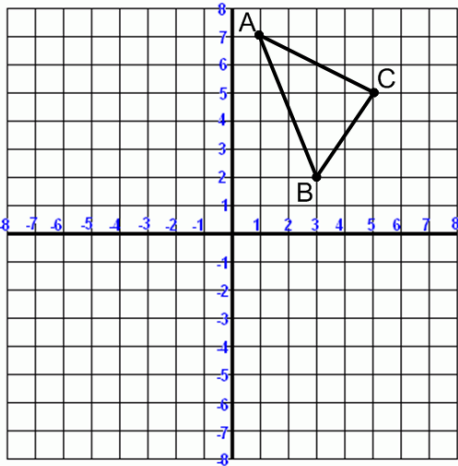


12)

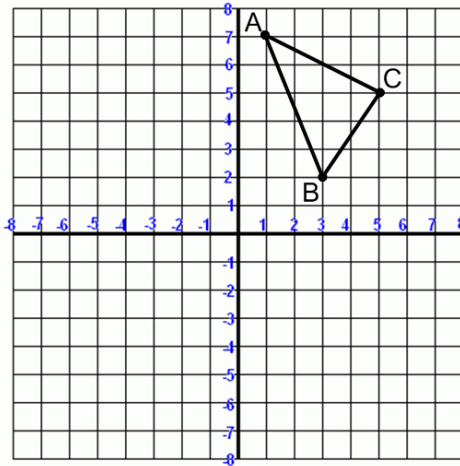


Rotate $\triangle ABC$ around the origin by the given direction.

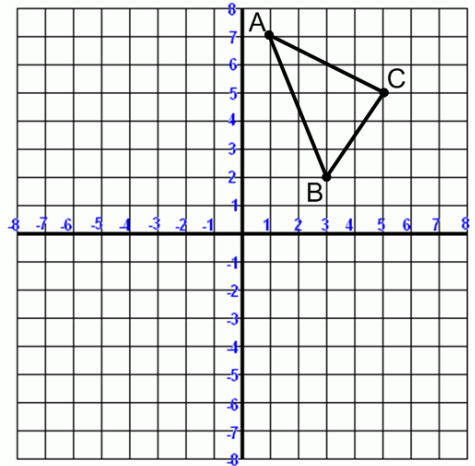
1. 90° counterclockwise



2. 180° rotation

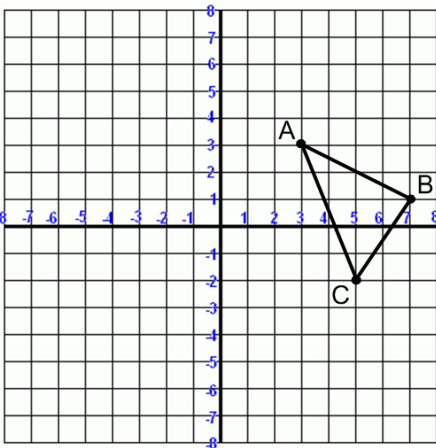


3. 90° clockwise

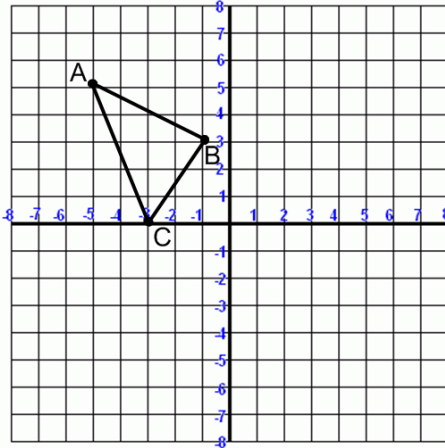


Reflect $\triangle ABC$ over the given axis or line.

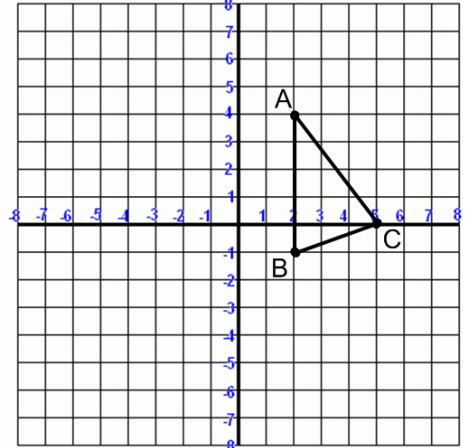
4. Reflect over the y -axis



5. Reflect over the x -axis

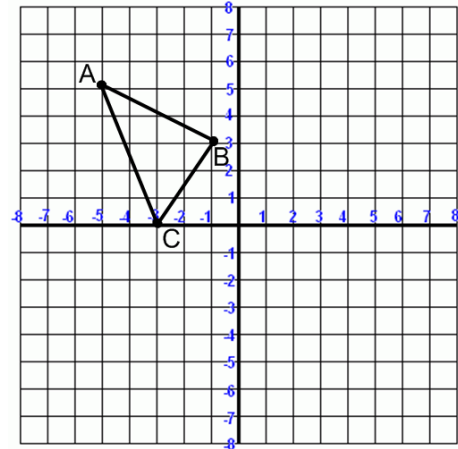


6. Reflect over the line $y = -3$

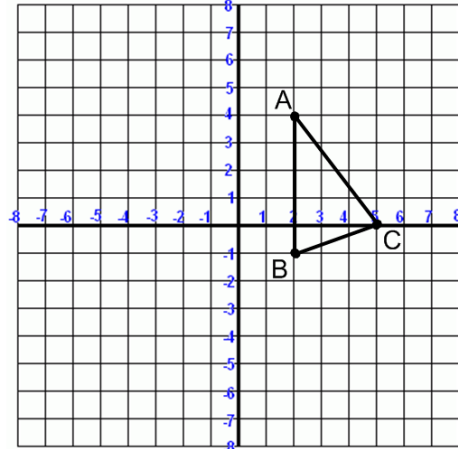


Translate $\triangle ABC$ by the given translation.

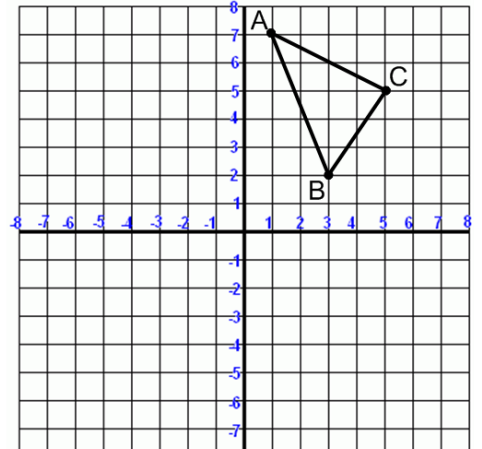
7. $(x, y) \rightarrow (x + 2, y)$



8. $(x, y) \rightarrow (x - 4, y + 3)$



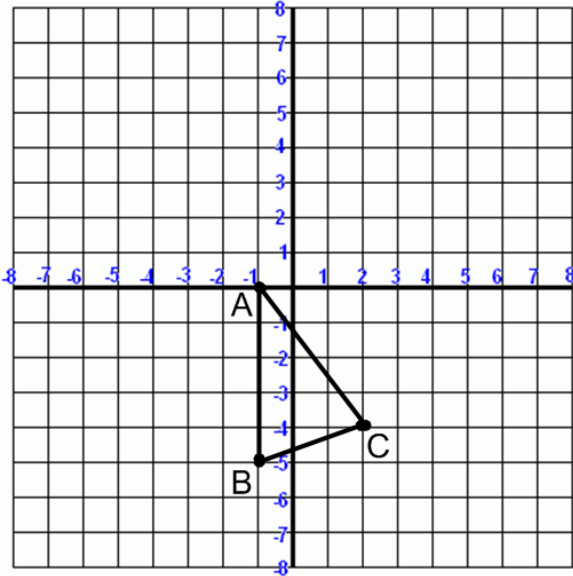
9. $(x, y) \rightarrow (x, y - 7)$



Draw the images of $\triangle ABC$ after each composition of transformations.

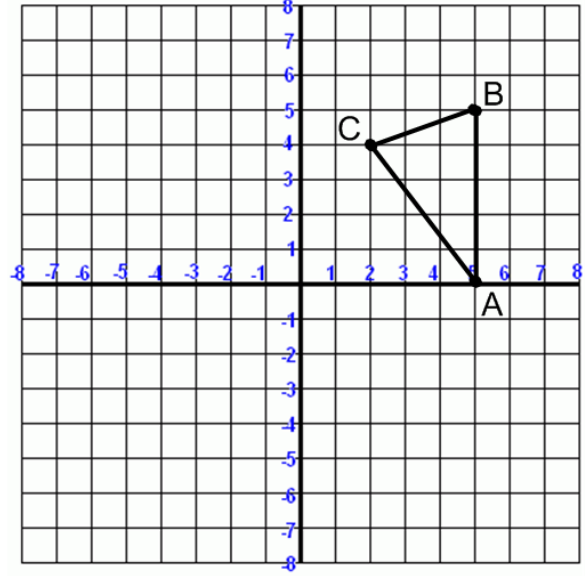
10. 1) Translate: $(x, y) \rightarrow (x + 4, y + 2)$

2) Reflect: over the y - axis



11. 1) Rotate: 90° counterclockwise

2) Reflect over the x - axis



12. 1) Rotate: 270° clockwise

2) Translate: $(x, y) \rightarrow (x + 6, y - 5)$

3) Reflect: over the line $x = -2$

