

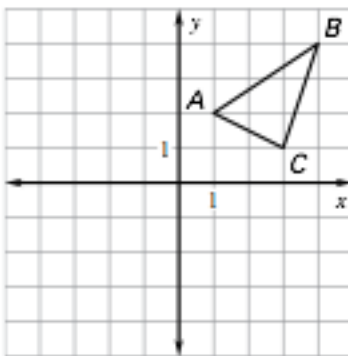
Honors Geometry

Worksheet 9.3

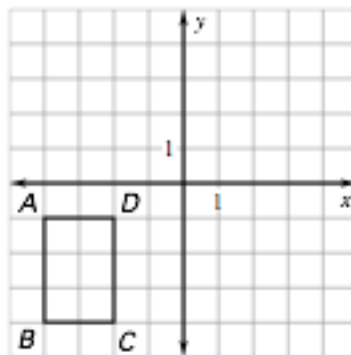
Name _____

Graph the reflection of the polygon in the given line.

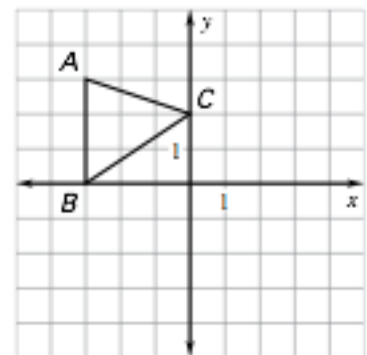
1. x -axis



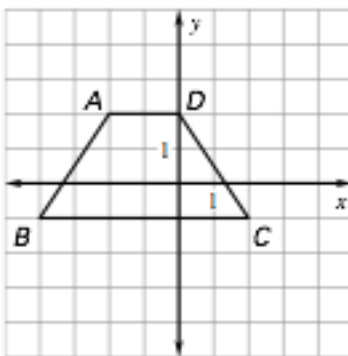
2. y -axis



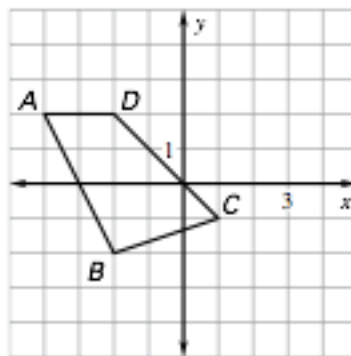
3. $x = -1$



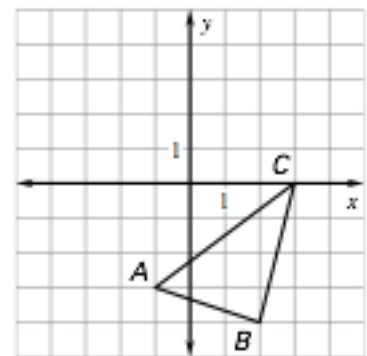
4. $y = 1$



5. $y = -x$

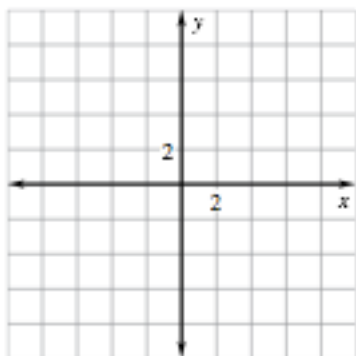


6. $y = x$

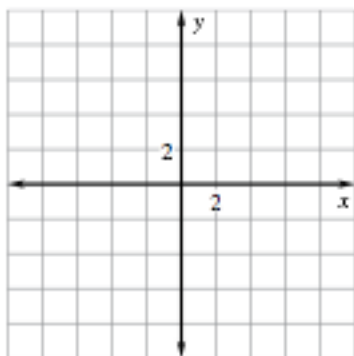


Use matrix multiplication to find the image. Graph the polygon and its image.

7. Reflect $\begin{matrix} A & B & C \\ \begin{bmatrix} -3 & 1 & 6 \\ 4 & 7 & 2 \end{bmatrix} \end{matrix}$ in the x -axis.

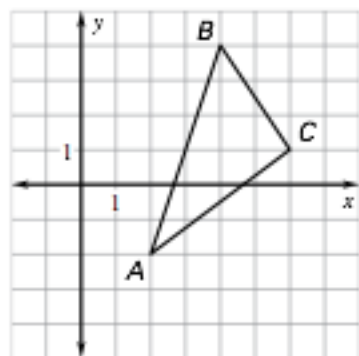


8. Reflect $\begin{matrix} A & B & C & D \\ \begin{bmatrix} 2 & 5 & 7 & 1 \\ 6 & 4 & -5 & -3 \end{bmatrix} \end{matrix}$ in the y -axis.

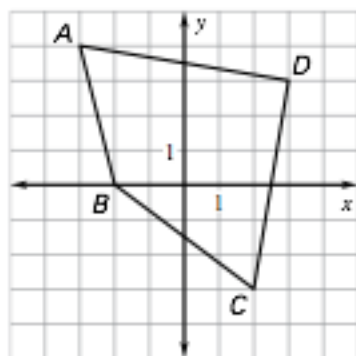


Write a matrix for the polygon. Then find the image matrix that represents the polygon after a reflection in the given line.

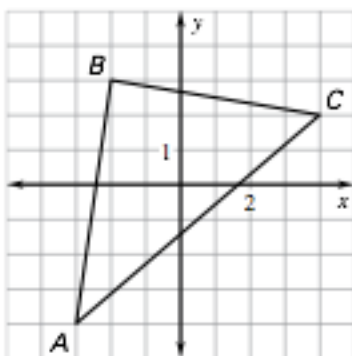
9. x -axis



10. y -axis



11. x -axis



Find point C on the x -axis so $AC + BC$ is a minimum.

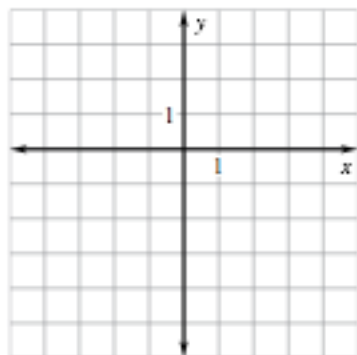
12. $A(2, -2), B(11, -4)$

13. $A(-1, 4), B(6, 3)$

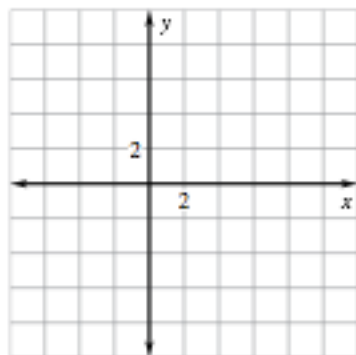
14. $A(-3, 2), B(-6, -4)$

The vertices of $\triangle ABC$ are $A(-2, 1)$, $B(3, 4)$, and $C(3, 1)$. Reflect $\triangle ABC$ in the first line. Then reflect $\triangle A'B'C'$ in the second line. Graph $\triangle A'B'C'$ and $\triangle A''B''C''$.

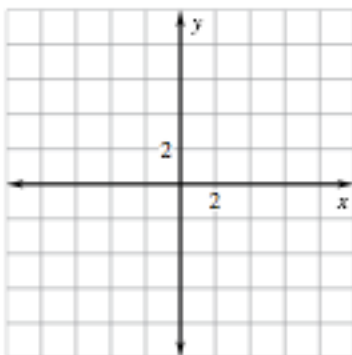
15. In $y = 1$, then in $y = -2$



16. In $x = 4$, then in $y = -1$



17. In $y = x$, then in $x = -2$



18. **Laying Cable** Underground electrical cable is being laid for two new homes. Where along the road (line m) should the transformer box be placed so that there is a minimum distance from the box to each of the homes?

