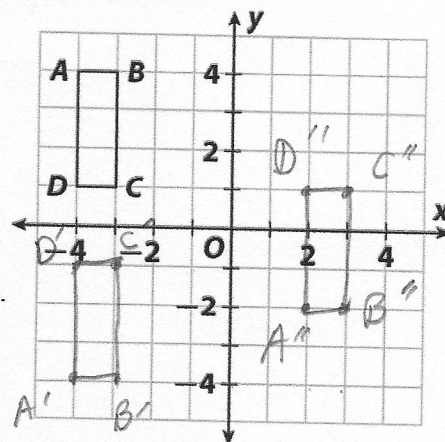


Rectangle $ABCD$ is reflected across the x -axis and translated along the vector $\langle 6, 2 \rangle$.

1. Show the effect of the first transformation.
2. Show the effect of the second transformation.



3. Write the coordinate notation for the sequence of transformations.

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

In Exercises 4 - 7, graph $\triangle JKL$ with vertices $J(2, 3)$, $K(-2, 1)$, and $L(-1, 5)$ and its images after the sequence of transformations.

4. Translation: $(x, y) \rightarrow (x - 1, y)$

Reflection: in the x -axis

$$\begin{array}{lll} J(2, 3) & J'(1, 3) & J''(1, -3) \\ K(-2, 1) & K'(-3, 1) & K''(-3, -1) \\ L(-1, 5) & L'(-2, 5) & L''(-2, -5) \end{array}$$

5. Translation: $(x, y) \rightarrow (x + 2, y - 3)$

Reflection: in the y -axis

$$\begin{array}{lll} J(2, 3) & J'(4, 0) & J''(-4, 0) \\ K(-2, 1) & K'(0, -2) & K''(0, -2) \\ L(-1, 5) & L'(1, 2) & L''(-1, 2) \end{array}$$

6. Translation: $(x, y) \rightarrow (x, y - 1)$

Reflection: in the y -axis

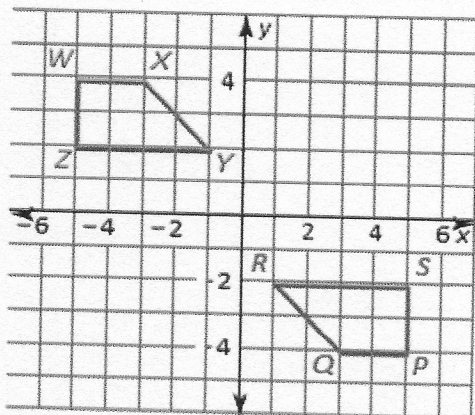
$$\begin{array}{lll} J(2, 3) & J'(2, 2) & J''(-2, 2) \\ K(-2, 1) & K'(-2, 0) & K''(2, 0) \\ L(-1, 5) & L'(-1, 4) & L''(1, 4) \end{array}$$

7. Translation: $(x, y) \rightarrow (x - 3, y)$

Reflection: in the x -axis

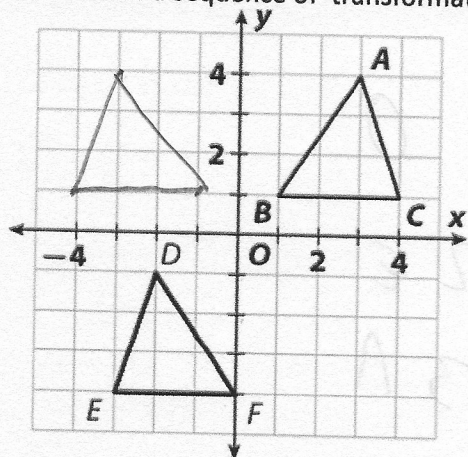
$$\begin{array}{lll} J(2, 3) & J'(-1, 3) & J''(-1, -3) \\ K(-2, 1) & K'(-5, 1) & K''(-5, -1) \\ L(-1, 5) & L'(-4, 5) & L''(-4, -5) \end{array}$$

8. Describe a sequence of transformations that maps PQRS to WXYZ.



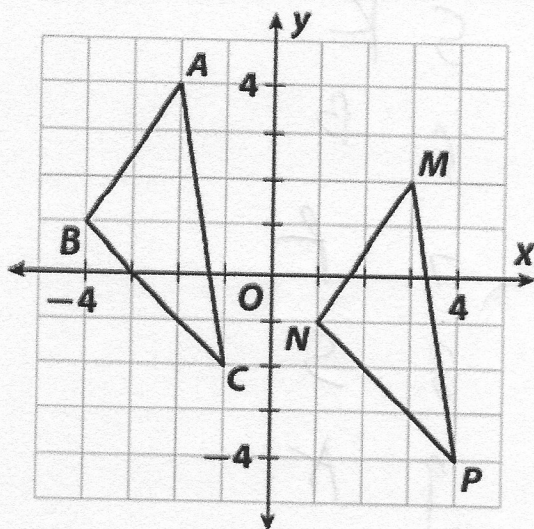
Reflect over x -axis
 Reflect over y -axis

9. Describe a sequence of transformations that maps ABC to DFE.



reflect over y -axis
 translate right 1
 down 5

10. Explain why $\triangle ABC$ and $\triangle MNP$ are congruent.



translate $\triangle ABC$
 right 5 \rightarrow down 2
 to get $\triangle MNP$