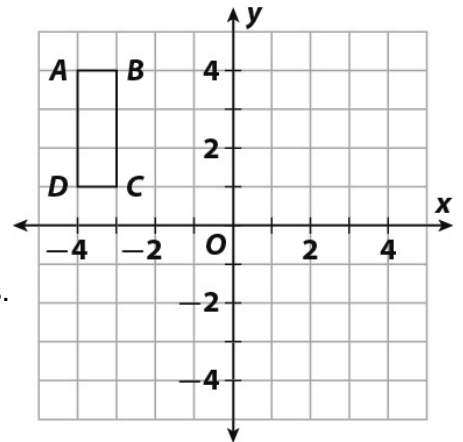


Rectangle  $ABCD$  is reflected across the  $x$ -axis and translated along the vector  $\langle 6, 2 \rangle$ .

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.



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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

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

Reflection: in the  $y$ -axis

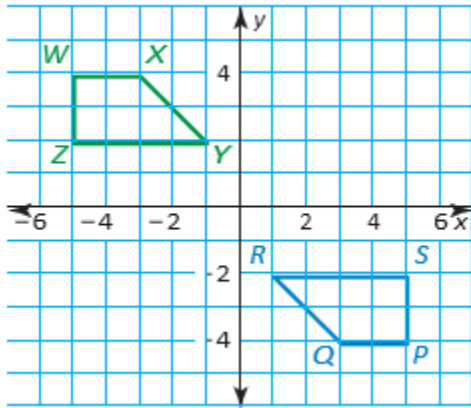
6. Translation:  $(x, y) \rightarrow (x, y - 1)$

Reflection: in the  $y$ -axis

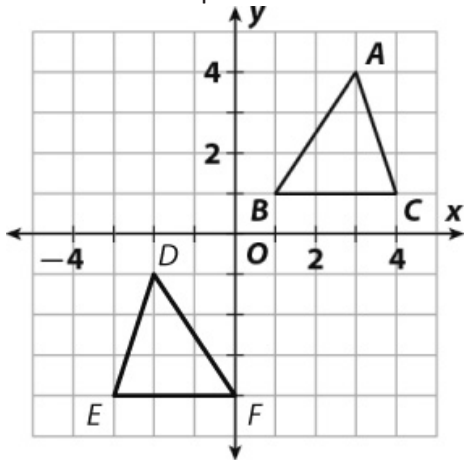
7. Translation:  $(x, y) \rightarrow (x - 3, y)$

Reflection: in the  $x$ -axis

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



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



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

