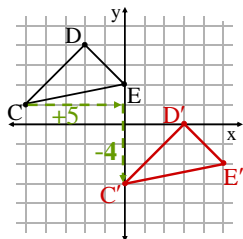


Lesson 12-2

Objective - To describe and interpret translations and reflections in the coordinate plane.

The triangle below is translated 5 units right and 4 units down. Describe the translation below using coordinate notation.



Coordinate Notation

$$C(-5, 1) \rightarrow C'(0, -3)$$

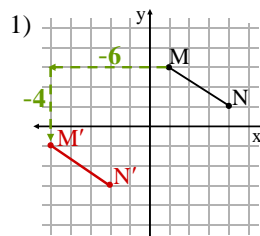
$$D(-2, 4) \rightarrow D'(3, 0)$$

$$E(0, 2) \rightarrow E'(5, -2)$$

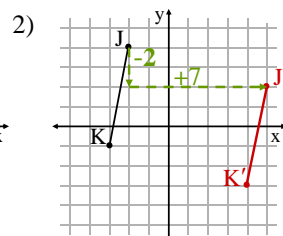
$$(x, y) \rightarrow (x + 5, y - 4)$$

$\triangle C'D'E'$ is the image of $\triangle CDE$.

Use coordinate notation to describe the translations below.

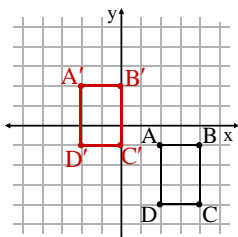


$$(x, y) \rightarrow (x - 6, y - 4)$$



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

Draw the image of Rectangle ABCD under the translation $(x, y) \rightarrow (x - 4, y + 3)$. Find the coordinates of the image.



Coordinate Notation

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

$$A(2, -1) \rightarrow A'(-2, 2)$$

$$B(4, -1) \rightarrow B'(0, 2)$$

$$C(4, -4) \rightarrow C'(0, -1)$$

$$D(2, -4) \rightarrow D'(-2, -1)$$

Change each description of rigid motion to coordinate notation.

1) Move 6 units right, and 3 units down.

$$(x, y) \rightarrow (x + 6, y - 3)$$

2) Move 2 units up, and 5 units left.

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

3) Move 2 units right.

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

4) Move 1 unit left, and move 3 units down.

$$(x, y) \rightarrow (x - 1, y - 3)$$