

Directions: Using the rule provided, describe the transformation that has occurred.

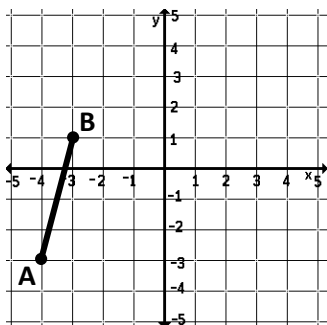
- 1) $(x, y) \rightarrow (y, x)$ 2) $(x, y) \rightarrow (y, -x)$ 3) $(x, y) \rightarrow (x, y - 3)$ 4) $(x, y) \rightarrow (-x, y)$

Directions: Write the rule to represent the transformation.

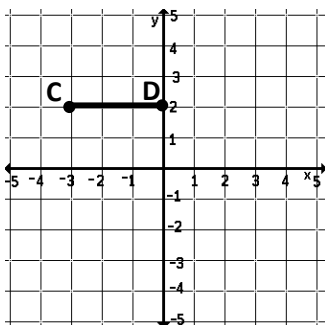
- 5) Rotate 270° CW about the origin 6) Translate 2 units left and 3 units down
- 7) Reflect over $y = -x$ 8) Reflect over the y -axis

Directions: Graph the transformation using the given information.

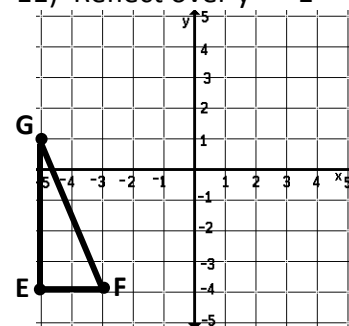
- 9) $(x, y) \rightarrow (x, -y)$



- 10) Rotate 270° CW about $(-2, 1)$



- 11) Reflect over $y = -1$



Directions: Solve each problem.

- 12) If $Z(3, -4)$, what is Z' after it has been reflected over the y -axis and then moved 5 units to the right.
- 13) If $R'(0, 5)$, what is R if the following rule was used to produce the image: $(x, y) \rightarrow (-y, -x)$?
- 14) If $J(3, 1)$ is reflected over $y = -x$, which other transformation would have the same coordinate as J' ?
- A) $M(1, 3)$ is transformed using the rule $(x, y) \rightarrow (-x, -y)$.
 - B) $H(-1, -3)$ is reflected over the y -axis.
 - C) $W(-1, 3)$ is rotated 270° CCW about the origin.
 - D) $E(4, -5)$ is translated 3 units left and 8 units up.