Directions: Using the rule provided, describe the transformation or sequence of transformations that have occurred.



Directions: Graph the transformation using the given information.



## Directions: Solve each problem.

14) If Z(3, -4), what is Z" after it has been rotate  $180^{\circ}$  CW and then vertically stretched by 5?

15) If R'(0, 5), what is R if the following rule was used to produce the image:  $(x, y) \rightarrow (-y, -x)$ ?

16) If J(3, 1) is reflected over y = x, dilated by 3 with a center at (1, 2), and then rotated 90°CCW, what is J'''?

Directions: Describe the sequence of transformations.

$$17) (x, y) \rightarrow ((x - 2, y) \rightarrow ((y, x - 2) \rightarrow ((-y, x - 2)))$$

$$18) (x, y) \rightarrow ((6x, y) \rightarrow ((-y, 6x) \rightarrow ((-6x, y))))$$



Directions: Determine how to map the pre-image onto the image.



Directions: Determine how to map the pre-image onto itself using the given number of transformations.

