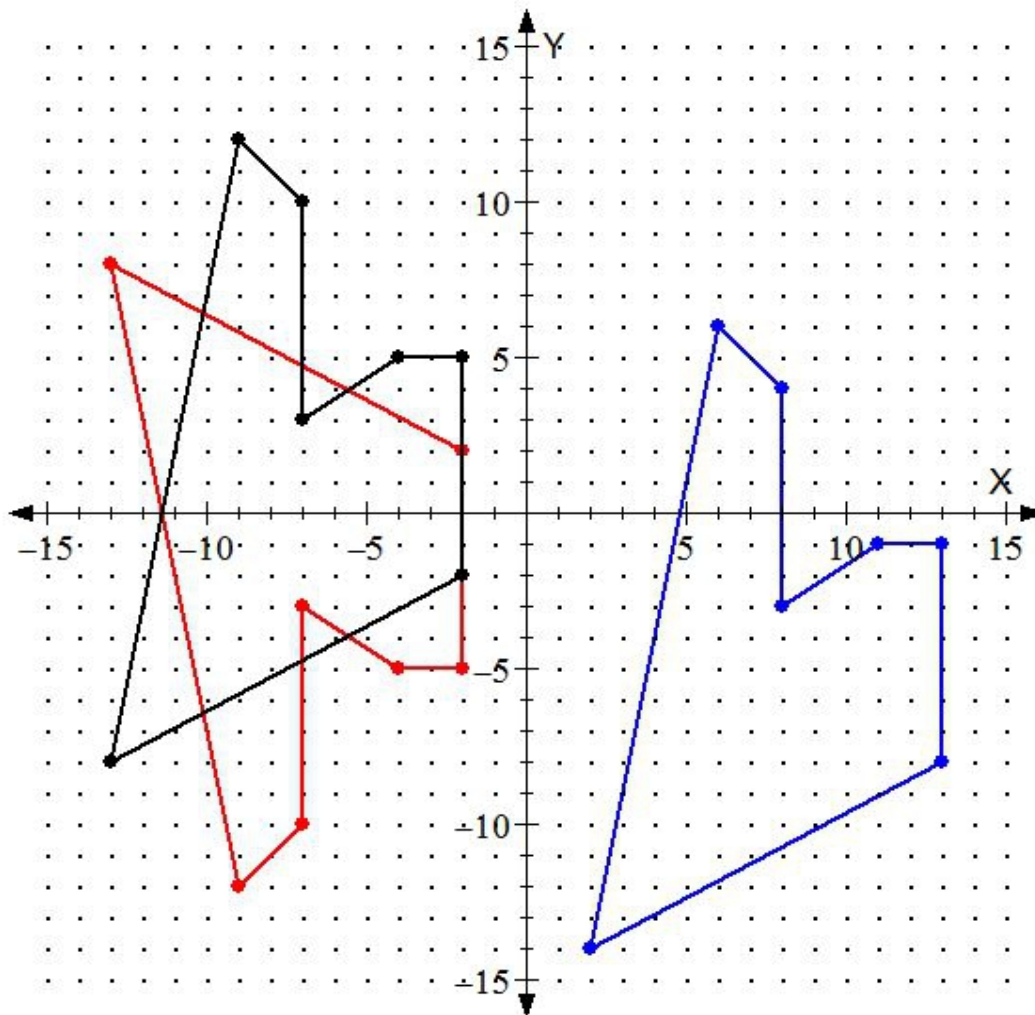


Directions: In the graph below, the preimage polygon is drawn in black, and the vertices of the preimage polygon appear in the top row of a table. For each of the two geometric transformation rules, use the rule to fill in the bottom row of image points which are the vertices of the image polygon. After filling in the row of image points, draw a heavy dot at each image point. Then use a ruler to draw the image polygon by connecting the image points in the same order that the image points appear in the table. The point (x', y') represents the image point of preimage point (x, y) .

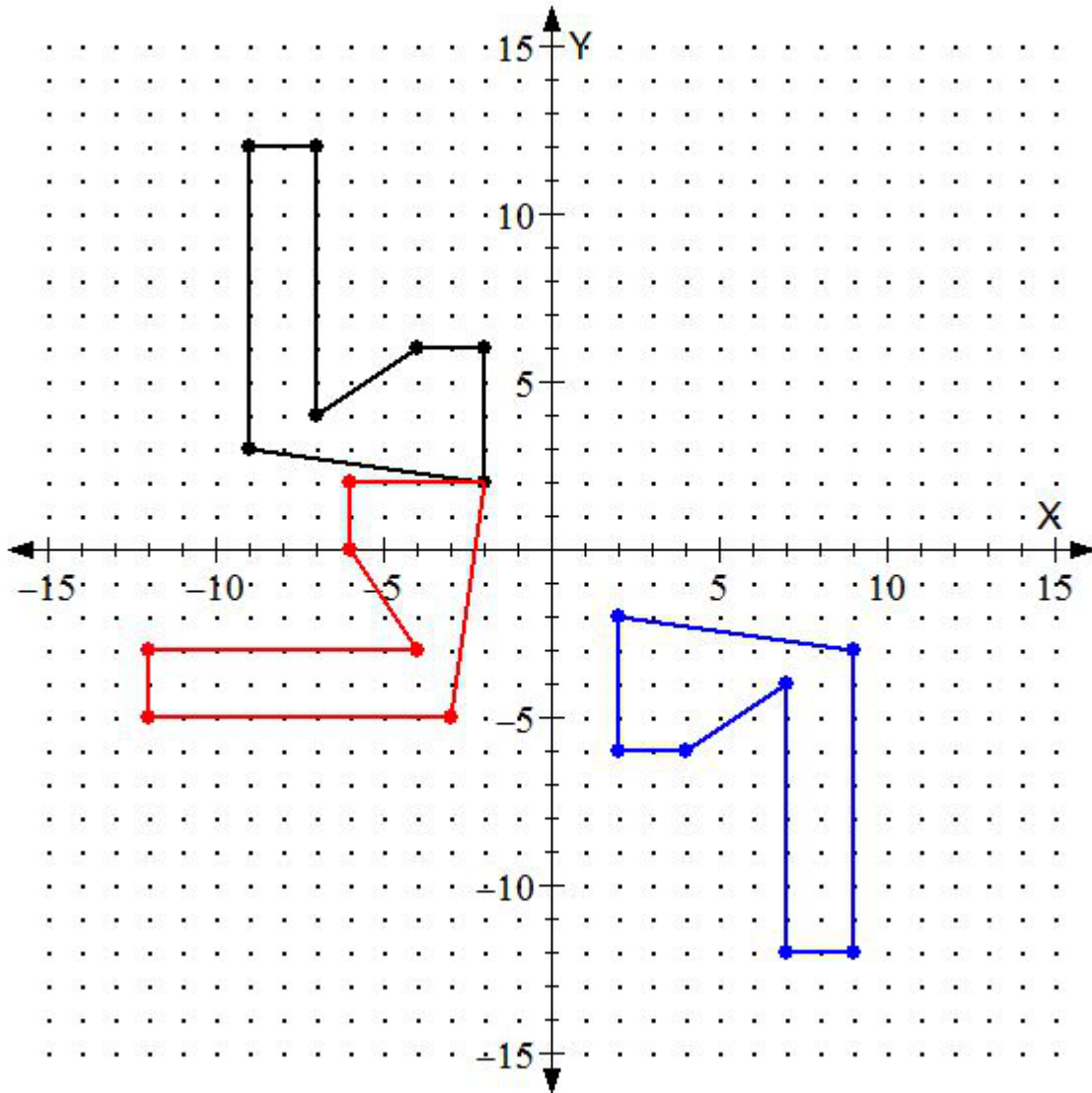


$$(x, y) \rightarrow (x, -y) = (x', y')$$

(x, y)	$(-2, -2)$	$(-2, 5)$	$(-4, 5)$	$(-7, 3)$	$(-7, 10)$	$(-9, 12)$	$(-13, -8)$	$(-2, -2)$
(x', y')	$(-2, 2)$	$(-2, -5)$	$(-4, -5)$	$(-7, -3)$	$(-7, -10)$	$(-9, -12)$	$(-13, 8)$	$(-2, 2)$

$$(x, y) \rightarrow (x + 15, y - 6) = (x', y')$$

(x, y)	$(-2, -2)$	$(-2, 5)$	$(-4, 5)$	$(-7, 3)$	$(-7, 10)$	$(-9, 12)$	$(-13, -8)$	$(-2, -2)$
(x', y')	$(13, -8)$	$(13, -1)$	$(11, -1)$	$(8, -3)$	$(8, 4)$	$(6, 6)$	$(2, -14)$	$(13, -8)$



$$(x, y) \rightarrow (-x, -y) = (x', y')$$

(x, y)	$(-2, 2)$	$(-9, 3)$	$(-9, 12)$	$(-7, 12)$	$(-7, 4)$	$(-4, 6)$	$(-2, 6)$	$(-2, 2)$
(x', y')	$(2, -2)$	$(9, -3)$	$(9, -12)$	$(7, -12)$	$(7, -4)$	$(4, -6)$	$(2, -6)$	$(2, -2)$

$$(x, y) \rightarrow (-y, x + 4) = (x', y')$$

(x, y)	$(-2, 2)$	$(-9, 3)$	$(-9, 12)$	$(-7, 12)$	$(-7, 4)$	$(-4, 6)$	$(-2, 6)$	$(-2, 2)$
(x', y')	$(-2, 2)$	$(-3, -5)$	$(-12, -5)$	$(-12, -3)$	$(-4, -3)$	$(-6, 0)$	$(-6, 2)$	$(-2, 2)$