

Translations

Find the coordinates of the vertices of each figure after the given transformation.

- 1) translation: 5 units left
 $W(0, -4), X(0, 0), Y(2, -1), Z(4, -5)$

$W'(-5, -4), X'(-5, 0), Y'(-3, -1), Z'(-1, -5)$

- 2) translation: 2 units down
 $H(0, -3), G(1, 0), F(3, -2)$

$H'(0, -5), G'(1, -2), F'(3, -4)$

- 3) translation: 2 units left and 2 units up
 $K(-3, -3), L(-3, 0), M(-2, -3)$

$K'(-5, -1), L'(-5, 2), M'(-4, -1)$

- 4) translation: $(x, y) \rightarrow (x - 4, y + 4)$
 $M(2, -2), L(3, 1), K(4, 1), J(5, -3)$

$M'(-2, 2), L'(-1, 5), K'(0, 5), J'(1, 1)$

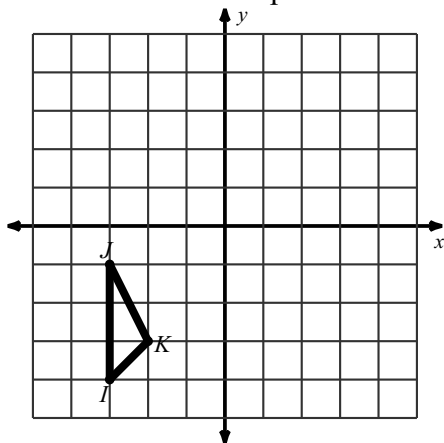
- 5) translation: $(x, y) \rightarrow (x, y + 5)$
 $G(2, -3), F(4, -2), E(5, -4)$

$G'(2, 2), F'(4, 3), E'(5, 1)$

- 6) translation: $(x, y) \rightarrow (x - 4, y - 1)$
 $I(-1, 3), J(3, 5), K(3, 2)$

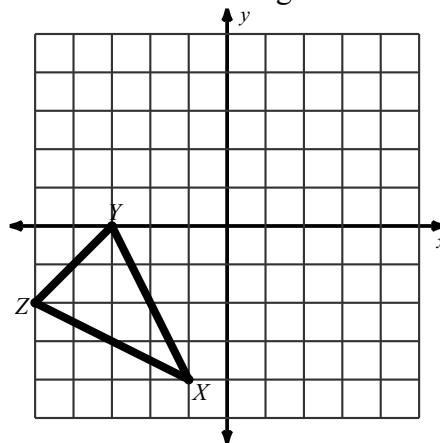
$I'(-5, 2), J'(-1, 4), K'(-1, 1)$

- 7) translation: 4 units up



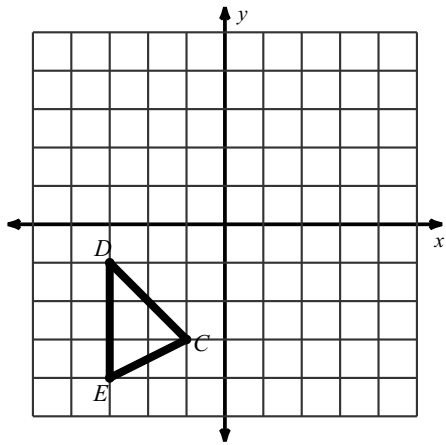
$I'(-3, 4), J'(-3, 7), K'(-2, 5)$

- 8) translation: 4 units right and 1 unit down



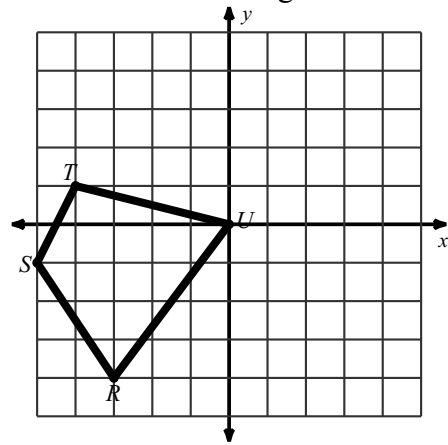
$Z'(-5, -4), Y'(1, -2), X'(3, -6)$

9) translation: 1 unit left and 6 units up



$E'(-4, 2), D'(-4, 5), C'(-2, 3)$

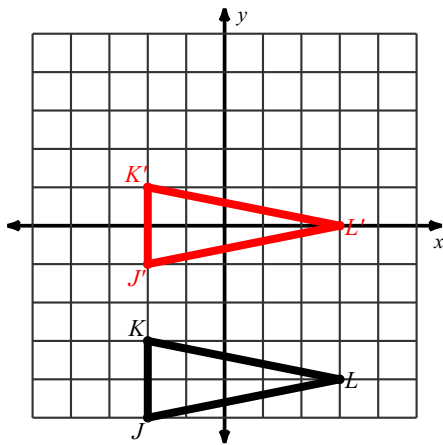
10) translation: 2 units right and 1 unit up



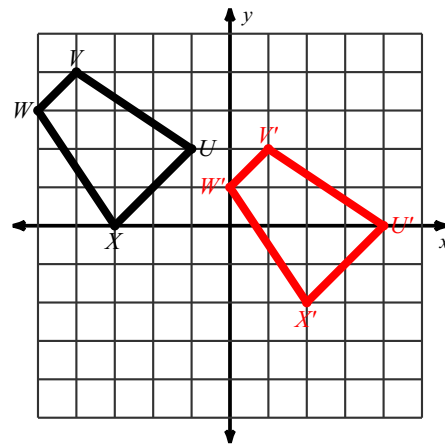
$R'(-1, -3), S'(-3, 0), T'(-2, 2), U'(2, 1)$

Graph the image of the figure using the transformation given.

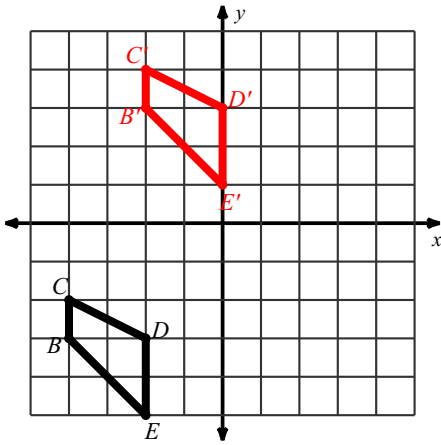
11) translation: $(x, y) \rightarrow (x, y + 4)$



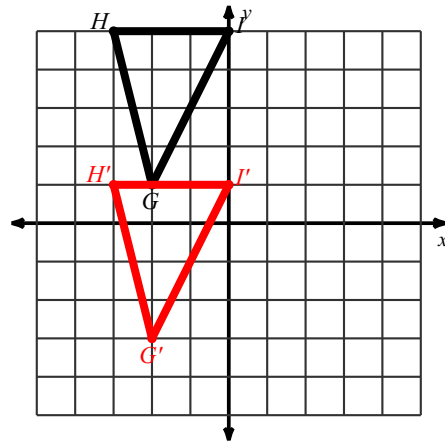
12) translation: $(x, y) \rightarrow (x + 5, y - 2)$



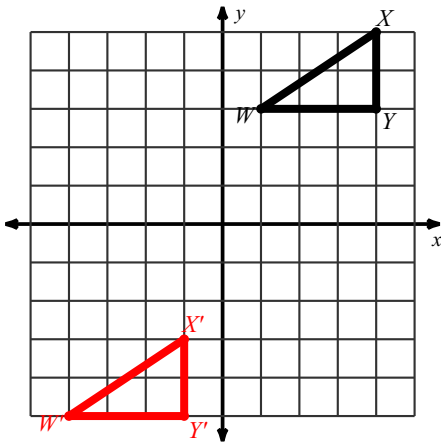
13) translation: $(x, y) \rightarrow (x + 2, y + 6)$



14) translation: $(x, y) \rightarrow (x, y - 4)$



15) translation: $(x, y) \rightarrow (x - 5, y - 8)$



16) translation: $(x, y) \rightarrow (x + 6, y + 3)$

