

Transformations

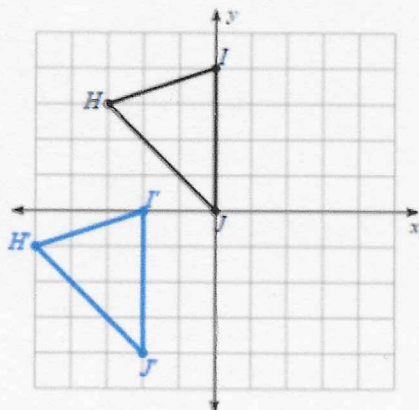
Translations

- 1) Using the translation $(x, y) \rightarrow (x - 4, y + 3)$, find the image of the given points.

$$G(-2, 4)$$

$$H(-10, 5)$$

- 2) Segment FG with endpoints $F(0, -3)$ and $G(0, -1)$ is translated 2 units up and 3 units to the left, find the coordinates of F' and G' and write the rule for this transformation.
- 3) Segment XY with endpoints $X(2, -3)$ and $Y(-3, 1)$ is translated 4 units down and 1 unit to the right, find the coordinates of X' and Y' and write the rule for this transformation.
- 4) The vertices of $\triangle JKL$ are $J(-2, 8)$, $K(1, -3)$, and $L(5, 4)$. If $\triangle JKL$ is transformed following the rule $(x, y) \rightarrow (x + 6, y - 1)$, what are the coordinates of the vertices of $\triangle J'K'L'$?
- 5) Maggie transformed $\triangle ABC$ with vertices $A(-3, 5)$, $B(-2, 2)$, and $C(-4, 2)$ onto $\triangle A'B'C'$ with vertices $A'(3, 1)$, $B'(4, -2)$, and $C'(2, -2)$. Write a rule that maps $\triangle ABC$ onto $\triangle A'B'C'$.
- 6) What is the rule that maps $\triangle HIJ$ onto $\triangle H'I'J'$?



- A. $(x, y) \rightarrow (x + 2, y + 4)$
B. $(x, y) \rightarrow (x - 2, y - 4)$
C. $(x, y) \rightarrow (x + 4, y + 2)$
D. $(x, y) \rightarrow (x - 4, y - 2)$

Reflections

- 7) Segment FG with endpoints $F(0, -3)$ and $G(0, -1)$ is reflected over the x -axis, find the coordinates of F' and G' and write the rule for this transformation.
- 8) Segment XY with endpoints $X(2, -3)$ and $Y(-3, 1)$ is reflected over the y -axis, find the coordinates of X' and Y' and write the rule for this transformation.