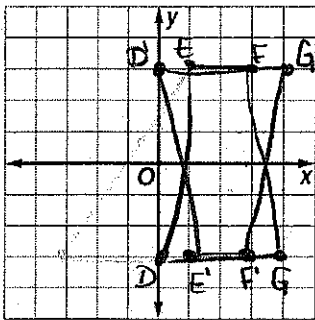


9.1 Warm-Up

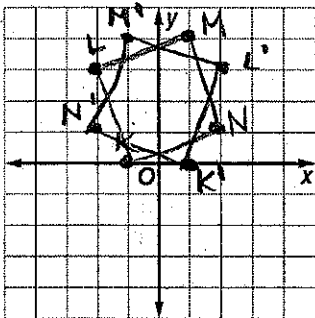
COORDINATE GEOMETRY Graph each figure and its image under the given reflection.

1. Trapezoid $DEFG$ with vertices $D(0,-3), E(1,3), F(3,3),$ and $G(4,-3)$ in the x -axis



$$\begin{array}{ll} D(0,-3) & D'(0,3) \\ E(1,3) & E'(1,-3) \\ F(3,3) & F'(3,-3) \\ G(4,-3) & G'(4,-3) \end{array}$$

2. Square $KLMN$ with vertices $K(-1,0), L(-2,3), M(1,4),$ and $N(2,1)$ in the y -axis



$$\begin{array}{ll} K(-1,0) & K'(1,0) \\ L(-2,3) & L'(2,3) \\ M(1,4) & M'(-1,4) \\ N(2,1) & N'(-2,1) \end{array}$$

9.1 Reflections

Target: Use properties of the coordinate plane to identify reflections.

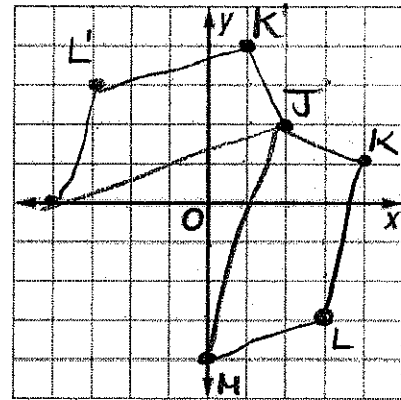
Concept Summary Reflection in the Coordinate Plane		
Reflection in the x -axis	Reflection in the y -axis	Reflection in the line $y = x$
<p>$(x, y) \rightarrow (x, -y)$</p>	<p>$(x, y) \rightarrow (-x, y)$</p>	<p>$(x, y) \rightarrow (y, x)$</p>

Example 5 Reflect a Figure in the Line $y = x$

Quadrilateral JKLM has vertices $J(2, 2)$, $K(4, 1)$, $L(3, -3)$, and $M(0, -4)$.

Graph JKLM and its image $J'K'L'M'$ in the line $y = x$

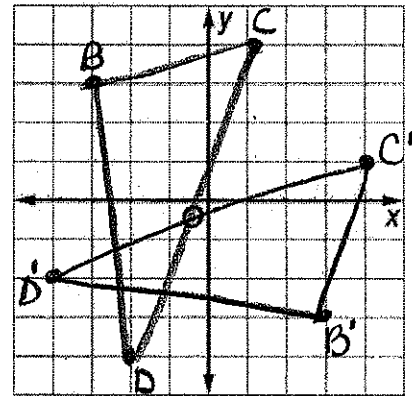
$J(2, 2)$ $J'(2, 2)$
 $K(4, 1)$ $K'(1, 4)$
 $L(3, -3)$ $L'(-3, 3)$
 $M(0, -4)$ $M'(-4, 0)$



Guided Practice

5. $\triangle BCD$ has vertices $B(-3, 3)$, $C(1, 4)$, and $D(-2, -4)$. Graph $\triangle BCD$ and its image in the line $y = x$.

$B(-3, 3)$ $B'(3, 3)$
 $C(1, 4)$ $C'(4, 1)$
 $D(-2, -4)$ $D'(-4, -2)$



Why is this important?

• Photography

PHOTOGRAPHY Refer to the photo at the right.

a. What object separates the zebras and their reflections?

Water

