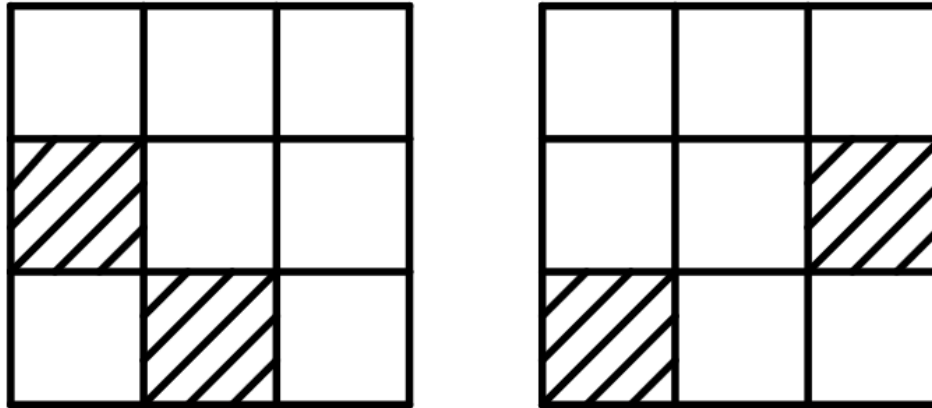


**Introduction to Polygons – Part 1**  
**Reflections of Polygons**  
**Independent Practice**

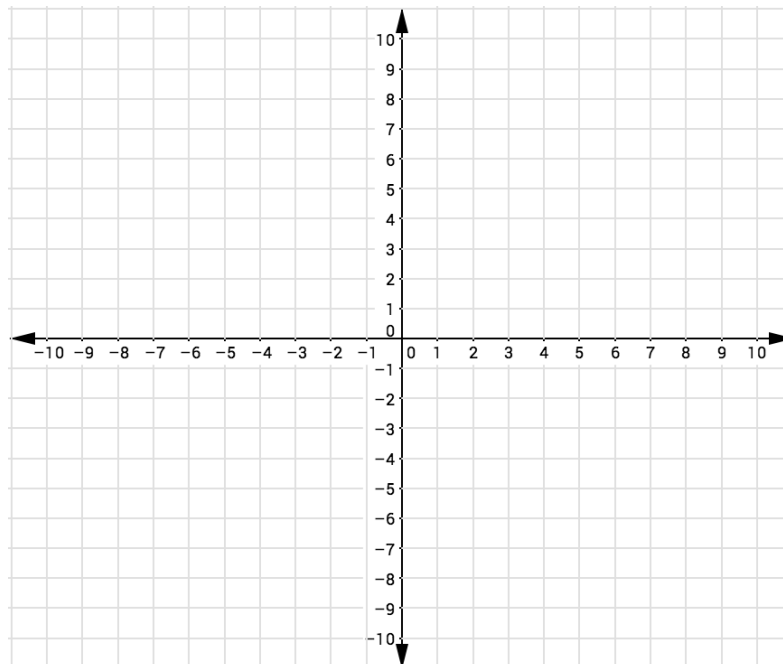
1. Draw the line(s) of reflection of the following figures.



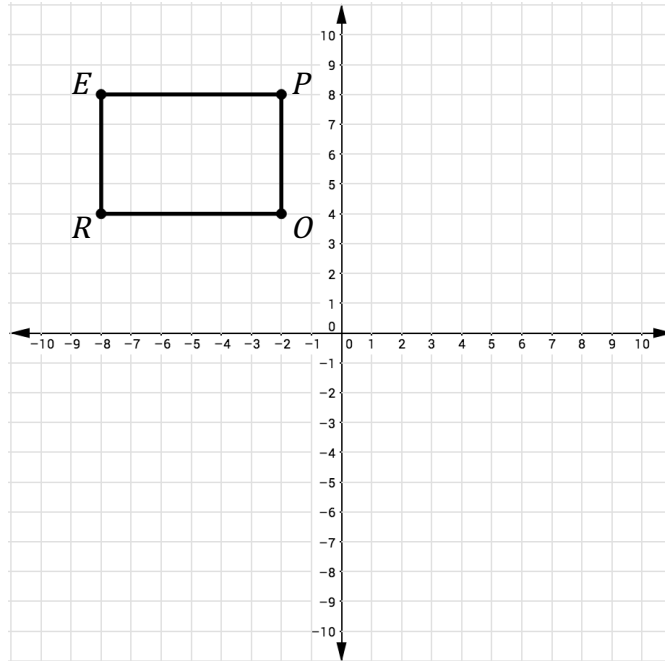
2. Quadrilateral *FRIO* is the result of a reflection of quadrilateral *LAMB* over the  $y$ -axis. *FRIO* has vertices at  $F(-7, 6)$ ,  $R(1, 7)$ ,  $I(2, -5)$ , and  $O(-6, -6)$ .

Part A: What are the coordinates of the vertices of *LAMB*?

Part B: Graph quadrilaterals *FRIO* and *LAMB* in the coordinate plane below.



3. Consider rectangle  $ROPE$  on the coordinate plane.

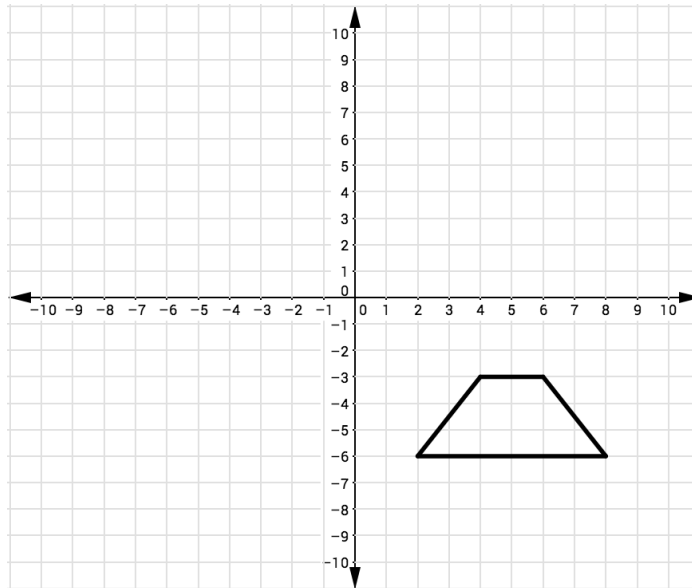


*Part A:* Draw a reflection over the line  $y = x$ . Write down the coordinates of the reflected figure.

*Part B:* Draw a reflection over the line  $y = -x$ . Write down the coordinates of the reflected figure.

4. Explain why when you reflect a point across the line  $y = x$ , the  $x$ -coordinate and the  $y$ -coordinate change places, and when you reflect a point across the line  $y = -x$ , the  $x$ -coordinate and the  $y$ -coordinate change places and their signs are changed.

5. Sketch the reflection of the following image over the  $y$ -axis and explain why the rule  $(x, y) \rightarrow (-x, y)$  applies to this transformation.



6. Edgar argues that reflecting the following image over the  $x$ -axis and then over the line  $y = x$  is the same as reflecting the same image over the line  $y = -x$ . Prove whether Edgar is correct or not.

