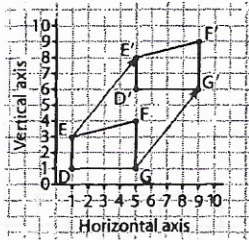# Transformations on a Coordinate Grid

Quick Review
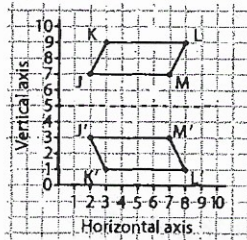
We can show transformations on a coordinate grid.

➤ **Translation**
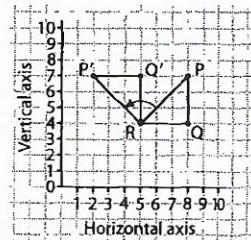

Quadrilateral DEFG was translated 4 squares right and 5 squares up.

➤ **Reflection**

Quadrilateral JKLM was reflected in a horizontal line through the vertical axis at 5.

➤ **Rotation**

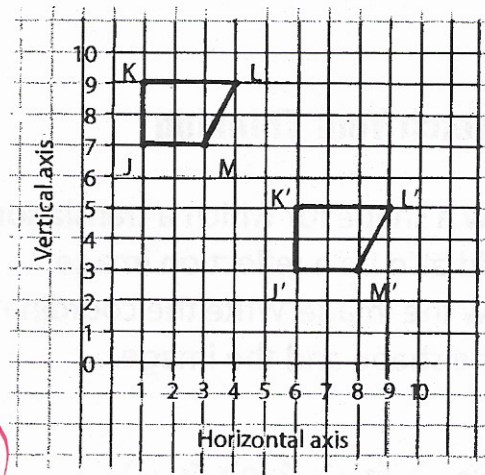Triangle PQR was rotated 90° counterclockwise about vertex R.

Try These

1. **a)** Identify this transformation.

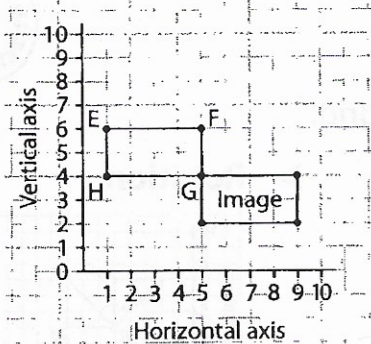   *5 squares right and 4 squares down*

   b) Write the coordinates of the vertices of the quadrilateral and its image.

   $J(1,7)$; $K(1,9)$; $L(4,9)$; $M(3,7)$
   *$J'(6,3)$; $K'(6,5)$; $L'(9,5)$; $M'(8,3)$*

Practice

1. Describe as many different transformations as you can that would move Rectangle EFGH onto the image.

translate 4 right and 2 down ; rotate 180° about vertex G

2. a) Draw the image of Kite JKLM after a 90° turn clockwise about vertex L. Label the vertices of the image.

   b) Write the coordinates of each vertex.

   J(3,9) ; K(4,7), L(3,4), M(2,7)

   c) Write the coordinates of the vertices of the image.
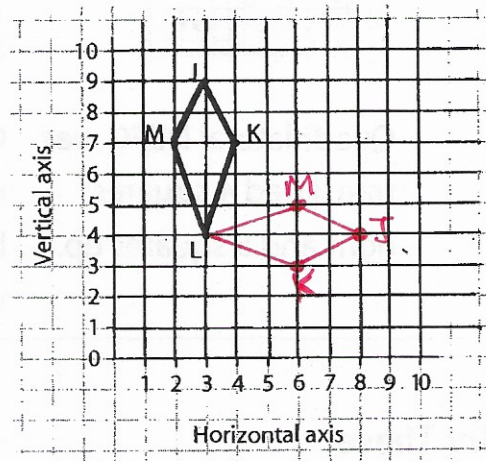
   J(8,4) ; K(6,3) ; L(3,4) ; M(6,5)

Stretch Your Thinking

Draw a shape for which a translation image could also be a reflection image.
Draw the image. Write the coordinates of the shape and the image.

Shape: (3,6) (3,9) (6,9) (6,6)

Image: (3,5) (6,5) (6,2) (3,2)

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