

Assignment

LESSON 5: Slide, Flip, Turn: The Latest Dance Craze?

Write

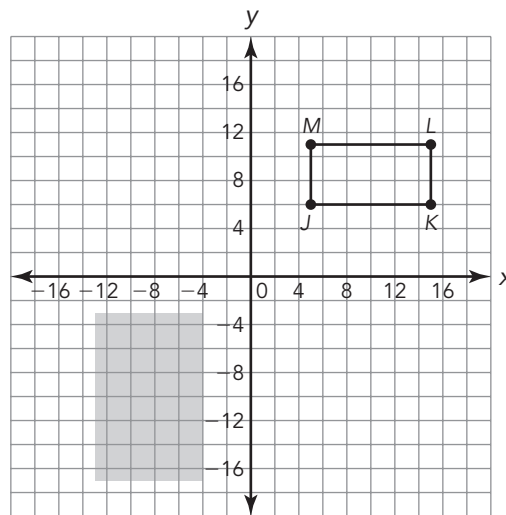
Describe the connection between rigid motion transformations on and off the coordinate plane.

Remember

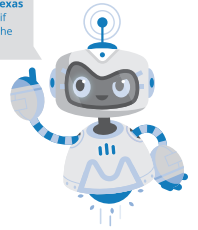
Coordinate notation may be used to represent transformations on the coordinate plane.

Practice

1. Transform rectangle $JKLM$ so it sits in the shaded rectangle in Quadrant III.



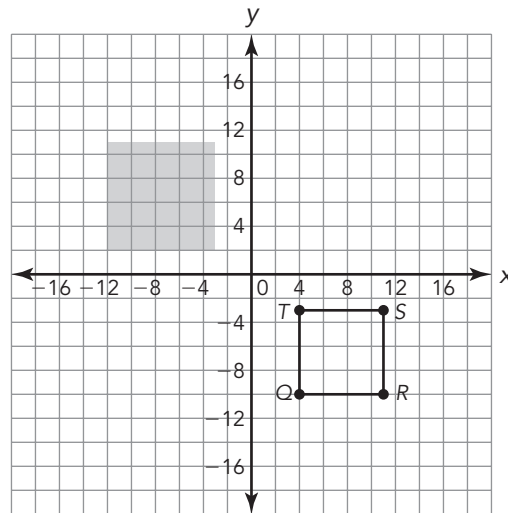
Visit livehint.com/texas
or use this QR code if
you need a hint on the
Practice questions.



- How many different transformations will it take to place rectangle $JKLM$ in the shaded area in Quadrant III?
- Describe and perform a transformation to move rectangle $JKLM$ to Quadrant II. Identify the coordinates of the vertices of the transformed rectangle, $J'K'L'M'$. Explain how you determined your answer.
- Describe and perform the transformation that can be used to move rectangle $J'K'L'M'$ to Quadrant III. Identify the coordinates of the vertices of the transformed rectangle, $J''K''L''M''$. Explain how you determined your answer.
- Could a different transformation(s) be used to move rectangle $JKLM$ to Quadrant III? Explain your reasoning.

Stretch

1. Consider figure $QRST$.



Ramona states that there are three ways to transform $QRST$ to place its image in the shaded area in Quadrant II.

- Translate $QRST$ vertically 13 units up, then horizontally 15 units to the left.
- Reflect $QRST$ over the x -axis then over the y -axis.
- Rotate $QRST$ 180° counterclockwise (or clockwise) about the origin.
 - a. Without graphing, determine the coordinates of the vertices of the image for each of the transformations Ramona listed. Explain how you determined your answers.
 - b. Which transformation would you recommend that Ramona choose? Explain your reasoning.
 - c. Perform the transformation you chose in part (b).

Review

1. What happens to the area of a triangle with base 12 units and height 7 units when its dimensions are increased by a factor of 3?
2. What happens to the perimeter of a triangle with side lengths of 3, 5, and 6 units when each side length is decreased by a factor of $\frac{1}{4}$?
3. Calculate the perimeter of figure $ABCDEF$.

