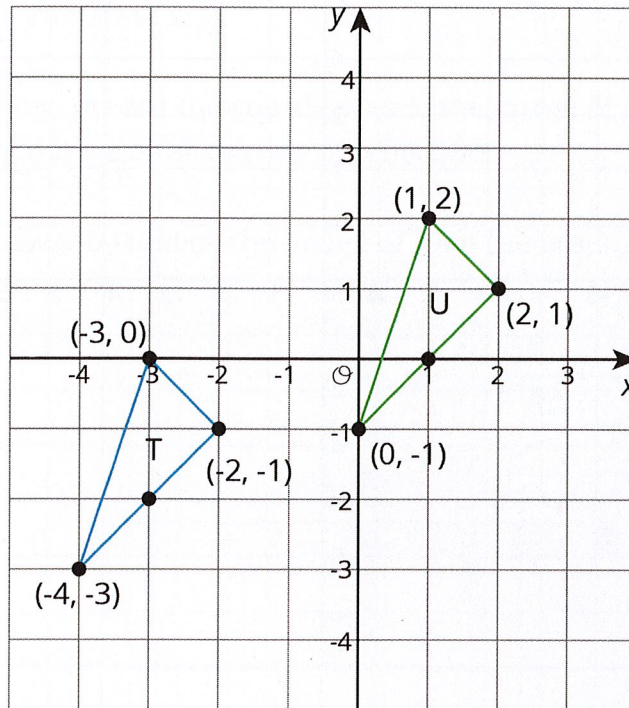


Unit 1
Lesson 5: Coordinate Moves

Let's transform some figures and see what happens to the coordinates of points.

5.1: Translating Coordinates

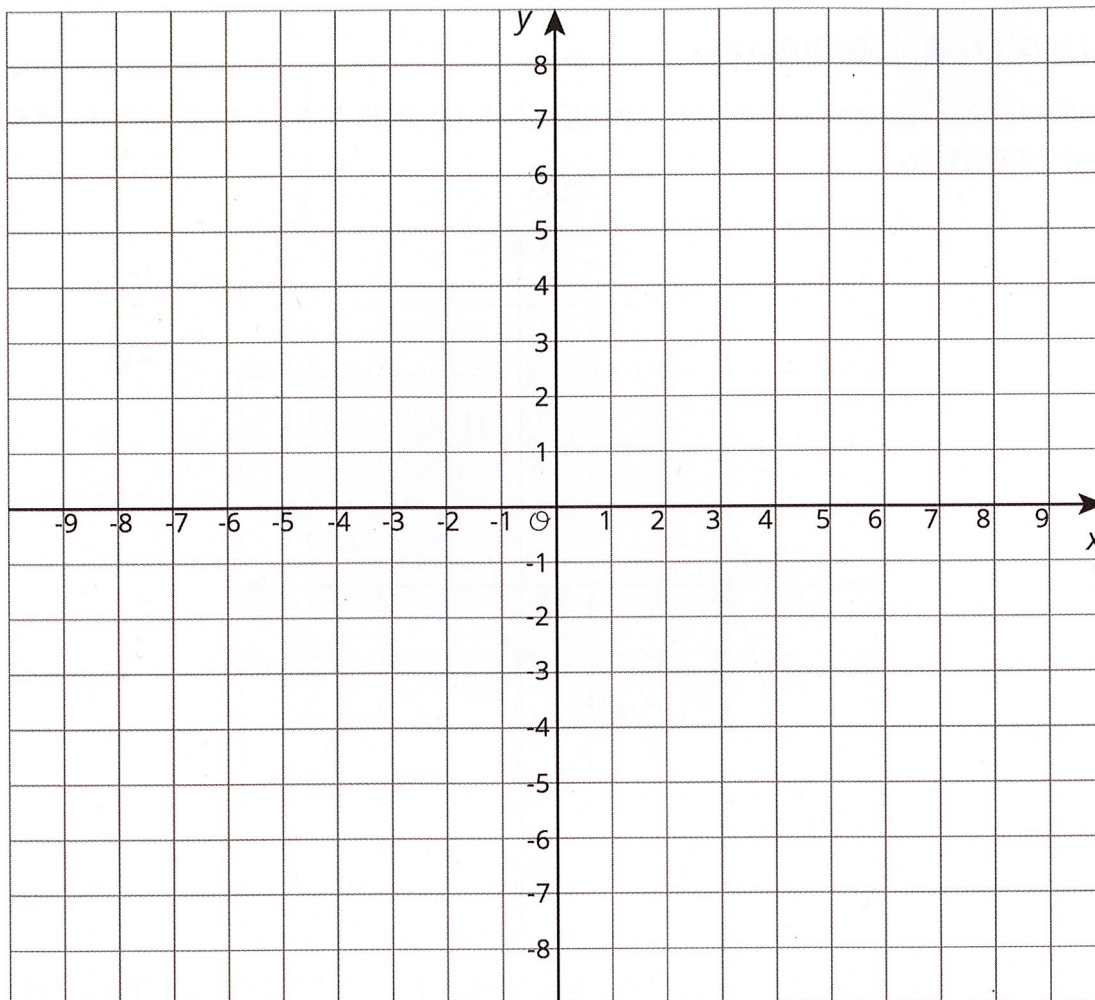
Select all of the translations that take Triangle T to Triangle U . There may be more than one correct answer.



1. Translate $(-3, 0)$ to $(1, 2)$.
2. Translate $(2, 1)$ to $(-2, -1)$.
3. Translate $(-4, -3)$ to $(0, -1)$.
4. Translate $(1, 2)$ to $(2, 1)$.

5.2: Reflecting Points on the Coordinate Plane

m.openup.org/1/8-1-5-2



1. Here is a list of points

$$A = (0.5, 4) \quad B = (-4, 5) \quad C = (7, -2) \quad D = (6, 0) \quad E = (0, -3)$$

On the coordinate plane:

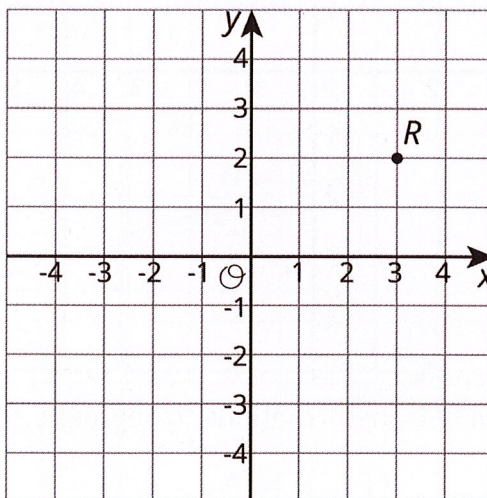
- Plot each point and label each with its coordinates.
- Using the x -axis as the line of reflection, plot the image of each point.
- Label the image of each point with its coordinates.
- Include a label using a letter. For example, the image of point A should be labeled A' .

2. If the point $(13, 10)$ were reflected using the x -axis as the line of reflection, what would be the coordinates of the image? What about $(13, -20)$? $(13, 570)$? Explain how you know.

3. The point R has coordinates $(3, 2)$.

a. Without graphing, predict the coordinates of the image of point R if point R were reflected using the y -axis as the line of reflection.

b. Check your answer by finding the image of R on the graph.

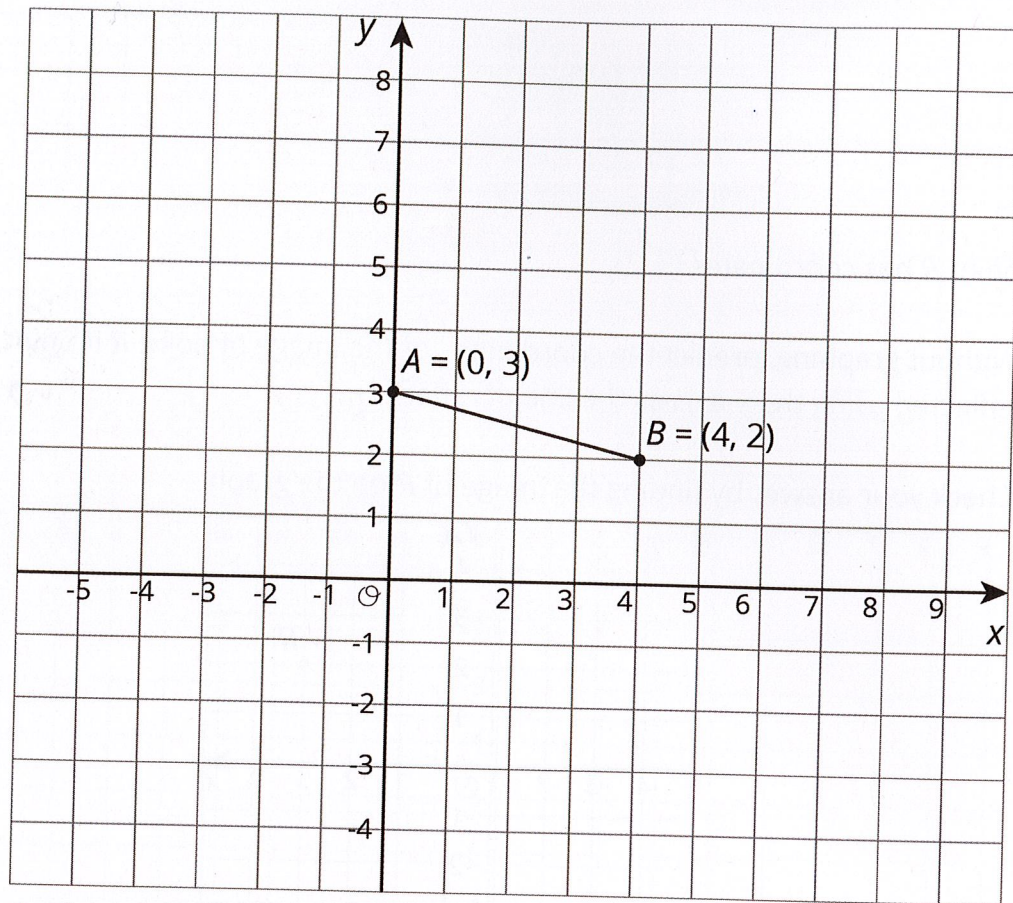


c. Label the image of point R as R' .

d. What are the coordinates of R' ?

4. Suppose you reflect a point using the y -axis as line of reflection. How would you describe its image?

5.3: Transformations of a Segment



Apply each of the following transformations to segment AB .

1. Rotate segment AB 90 degrees counterclockwise around center B . Label the image of A as C . What are the coordinates of C ?
2. Rotate segment AB 90 degrees counterclockwise around center A . Label the image of B as D . What are the coordinates of D ?
3. Rotate segment AB 90 degrees clockwise around $(0, 0)$. Label the image of A as E and the image of B as F . What are the coordinates of B and F ?
4. Compare the two 90-degree counterclockwise rotations of segment AB . What is the same about the images of these rotations? What is different?