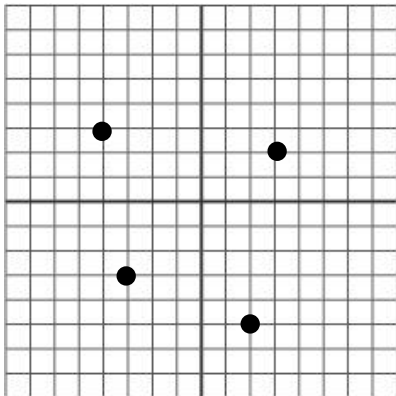
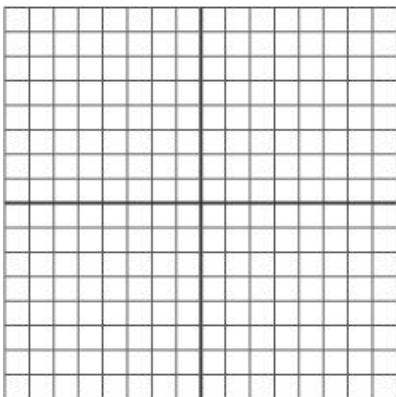


MORE PRACTICE - Transformations with Matrices



- 1a. Write the coordinates of the vertices of the trapezoid as a matrix.
- 1b. The trapezoid is to be shifted down 1 and left 2. Write the translation matrix.
- 1c. Write the matrix of the shifted triangle and draw it on the graph.



The sides of a triangle with vertices  $A(-2, 3)$ ,  $B(0, 5)$ ,  $C(2, 4)$  is rotated  $90^\circ$ .

- 2a. Draw the triangle and write a matrix for the original vertices.
- 2b. Write the rotation matrix.
- 2c. Write the matrix for the rotated points and graph the new triangle.

**The vertices of  $\triangle ABC$  are  $(1, 5)$ ,  $B(4, 0)$ , and  $(-1, -4)$ .**

If the triangle is reflected across the x-axis:

- 3a. What reflection matrix should be used?
- 3b. Write the vertices of the reflected triangle.

THEN the triangle from 3b is dilated by a factor of 2:

4. Write the vertices of the dilated triangle.

THEN the triangle from 4b is rotated  $180^\circ$ :

- 5a. What rotation matrix should be used?
- 5b. Write the vertices of the rotated triangle.

THEN triangle from 5b is moved right 2 and up 4:

- 6a. What translation matrix should be used?
- 6b. Write the vertices of the translated triangle.