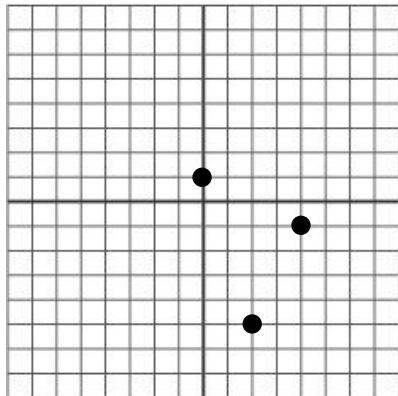
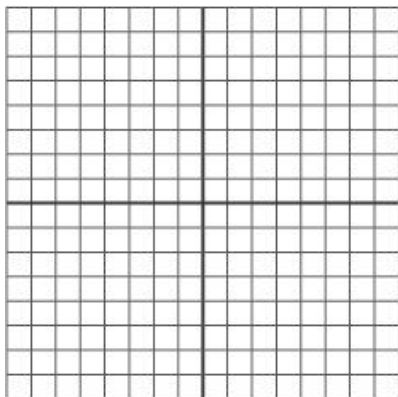


Matrices M4: Transformations with Matrices



- 1a. Write the coordinates of the vertices of the triangle as a matrix.
- 1b. The triangle is to be shifted up 2 and left 3. write the translation matrix.
- 1c. Write the matrix of the shifted triangle and draw it on the graph.



The sides of a quadrilateral with vertices $A(0, 0)$, $B(1, 3)$, $C(5, 4)$ and $D(4, 4)$ is doubled.

- 2a. Draw the quadrilateral and write a matrix for the original vertices.
- 2b. Write the matrix for the vertices of the dilated quadrilateral and redraw it.

The vertices of $\triangle ABC$ are $(2, 2)$, $B(-1, 5)$, and $(-2, -3)$.

If the triangle is reflected across the y-axis:

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

THEN the triangle from 3b is rotated 90° counterclockwise:

- 4a. What is the rotation matrix you would use?
- 4b. Write the vertices of the rotated triangle.

THEN the triangle from 4b is reflected over the line $y = x$:

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

THEN triangle from 5b is moved left 3 and down 1:

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