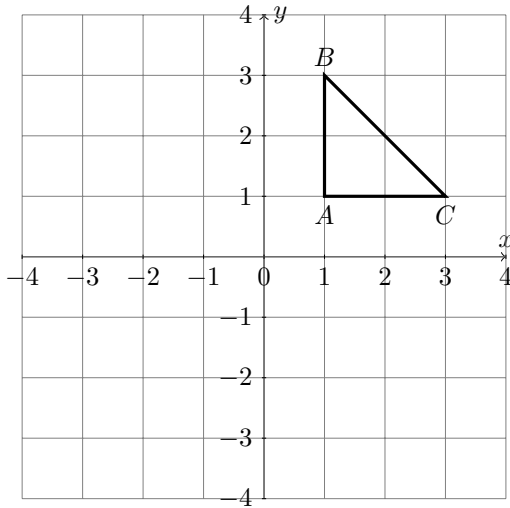


Name: \_\_\_\_\_

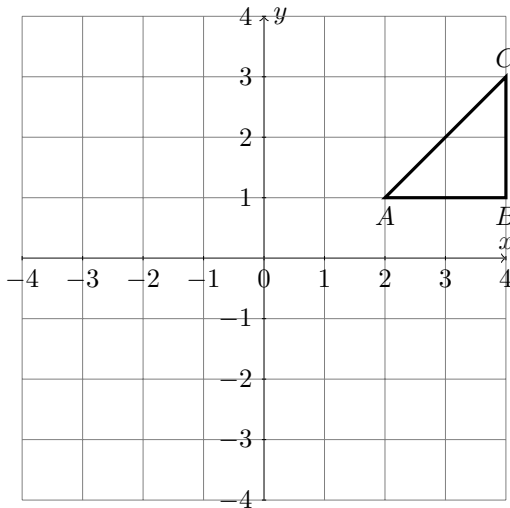
1. (a) Find the coordinates of the image of the triangle  $ABC$  under the transformation matrix (6)

$$\begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}$$



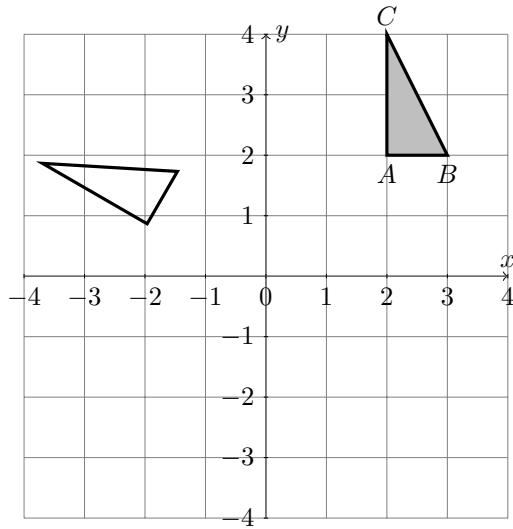
- (b) Draw the image of the triangle on the above grid.  
(c) Describe fully this transformation( That is, you should indicate the coordinates of the center, the angle of rotation and its direction, clock-wise or anticlock-wise )

2. (a) Find the coordinates of the image of the triangle  $ABC$  under the transformation  $90^\circ$ , anticlockwise rotation with center at  $(0, 0)$ . (6)



- (b) Draw the image of the triangle on the above grid.

3. Find the coordinates of the center of rotation of the transformation that maps the shaded triangle  $ABC$  into its given image. Also, measure the angle of rotation and give its direction. (4)



4. The shaded triangle  $ABC$  is transformed by a stretch with the invariant line as  $x$ -axis. Find the scale factor of the stretch. (2)

