

7F Inverse Matrices & Transformations

1. The triangle T has vertices at A, B and C. The matrix:

$$M = \begin{bmatrix} 4 & -1 \\ 3 & 1 \end{bmatrix}$$

transforms T to the triangle T' with vertices at (4,3), (4,10) and (-4,-3).

Find the coordinates of the points A, B and C

2. The matrix $\mathbf{A} = \begin{bmatrix} 2 & 4 \\ -2 & -5 \end{bmatrix}$ represents a transformation T . Given that T maps point P with coordinates (x,y) onto the point P' with coordinates $(6,10)$:
- a) Find the coordinates of P

The matrix \mathbf{B} represents a transformation U . Given that the transformation T followed by the transformation U is equivalent to a reflection in the line $y = x$:

- b) Find matrix \mathbf{B} .