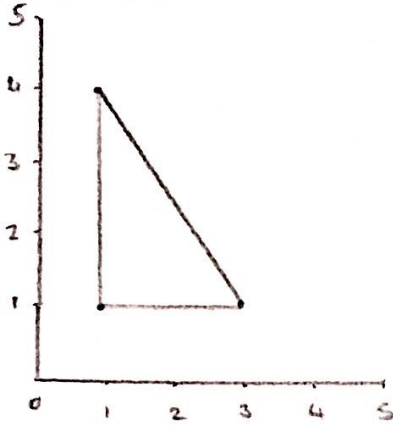


MATRIX TRANSFORMATIONS IN 2 DIMENSIONS

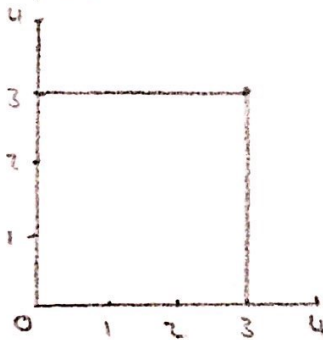


Exercise 1) a) For the triangle with vertices: $(1,1)$, $(3,1)$ and $(1,4)$ find the matrix for the stretch, by factor 3, x -axis invariant.



b) Sketch the result of the stretch on a separate graph.

Exercise 2) a) For a square with vertices $(0,0)$, $(3,0)$, $(0,3)$ and $(3,3)$ shear the square with x -axis invariant 3 and scale factor 1.5:



b) Sketch the result of the shear on separate graph.