

c)  $\text{Fix}\begin{pmatrix} 2 & 1 \\ 0 & 1 \end{pmatrix}$  is the set of elements of  $\mathbb{R}^2$  which are fixed by  $\begin{pmatrix} 2 & 1 \\ 0 & 1 \end{pmatrix}$  i.e.  $g(x, y) = (x, y)$

but  $g(x, y) = (2x, y)$  for  $g = \begin{pmatrix} 2 & 1 \\ 0 & 1 \end{pmatrix}$

for  $(x, y)$  to be fixed by  $\begin{pmatrix} 2 & 1 \\ 0 & 1 \end{pmatrix}$ ,  $x$  must be zero.

hence  $\text{Fix}\begin{pmatrix} 2 & 1 \\ 0 & 1 \end{pmatrix}$  is the  $y$ -axis, since  $y \in \mathbb{R}$ , and can take any value.

2/2.

$\frac{12}{15}$