Name Prof. M.

Section J
Subsection left center right
Row number 1 2 3 4 5 6 7 8

Mathematics 1553

Quiz 3
Prof. Margalit
5 February 2016

1. Let

$$A = \begin{pmatrix} 1 & 0 & 1 \\ 0 & 1 & 1 \end{pmatrix} \text{ and } b = \begin{pmatrix} -2 \\ 8 \end{pmatrix}$$

Write in parametric form the solutions to $Ax = b$.

$$\begin{pmatrix} -2 \\ 8 \\ 0 \end{pmatrix} + x_3 \begin{pmatrix} -1 \\ -1 \\ 1 \end{pmatrix}$$

Write in parametric form the solutions to $Ax = 0$ (same A as above).

$$x_3 \begin{pmatrix} -1 \\ -1 \\ 1 \end{pmatrix}$$

True/False. There is a vector b in $\mathbb{R}^2$ so that the set of solutions to $Ax = b$ is the yz–plane in $\mathbb{R}^3$ (same A as above). Explain your answer.

No. The solutions to $Ax=0$ is a line and so the solutions to any $Ax=b$ must be a line, not a plane.