Chapter 3 Section 2

Andrew Taylor

April 30 2022

Problem 1. *Is* $W = \left\{ \begin{bmatrix} x \\ y \end{bmatrix} \text{ in } \mathbb{R}^2 \text{: } x \geq 0 \text{ and } y \geq 0 \right\}$ *a subspace of* $\mathbb{R}^2$*?*

Solution. *W contains the zero vector and is closed under addition. But W is not closed under scalar multiplication. Therefore W is not a subspace of* $\mathbb{R}^2$*.*