

Homework 5: Due Wednesday, May 25th

- (1) Exercise 2.1.12
- (2) Exercise 2.1.14
- (3) Prove that $\left\{ \begin{pmatrix} 1 \\ 2 \end{pmatrix}, \begin{pmatrix} 2 \\ 1 \end{pmatrix} \right\}$ is a spanning set in \mathbb{R}^2 and also that it is linearly independent.
- (4) Consider the set $\{\mathbf{v}, \mathbf{e}_1, \mathbf{e}_2\} \subseteq \mathbb{R}^2$, where \mathbf{v} is a given vector in \mathbb{R}^2 . Prove that S is linearly dependent.