

Please do the following problem and hand it in with the homework due on Monday, Sept. 26. One of the problems on the exam will ask you to do a short proof. The following problem is in a similar style, and is good practice for the exam.

Extra Problem: Let $\vec{v}_1, \vec{v}_2, \vec{v}_3, \vec{v}_4 \in \mathbb{R}^n$. Prove that if $\{\vec{v}_1, \vec{v}_2, \vec{v}_3\}$ is linearly independent and if \vec{v}_4 is not in $\text{Span}\{\vec{v}_1, \vec{v}_2, \vec{v}_3\}$, then the set $\{\vec{v}_1, \vec{v}_2, \vec{v}_3, \vec{v}_4\}$ is linearly independent.