

MATH 54 SPRING 2019: DISCUSSION 109/112 QUIZ#1

GSI: CHRISTOPHER EUR, DATE: 2/5/2019

STUDENT NAME: _____

Problem 1. (5 points) Let $\vec{v} = \begin{bmatrix} 2 \\ 2 \\ 2 \end{bmatrix}$ and $A = \begin{bmatrix} 2 & 1 & -1 \\ 3 & 0 & 1 \\ 4 & 1 & 1 \end{bmatrix}$. Is \vec{v} in the subset of \mathbb{R}^3 spanned A ?

Problem 2. (5 points) If true, prove it; if false give a counterexample: If $\{\vec{v}_1, \vec{v}_2, \vec{v}_3, \vec{v}_4\}$ are in \mathbb{R}^4 and \vec{v}_3 is not a linear combination of $\vec{v}_1, \vec{v}_2, \vec{v}_4$, then $\{\vec{v}_1, \vec{v}_2, \vec{v}_3, \vec{v}_4\}$ is linearly independent.