

Quiz #3 for Math 250:1 & 5

2/14/2011

Name _____ Section (please circle one) 1 5

1. (2) Suppose that $\{u_1, u_2, \dots, u_k\}$ is a set of vectors in \mathbb{R}^n . **Define** “ $\{u_1, u_2, \dots, u_k\}$ is linearly dependent.”

2. (4) Suppose $u_1 = \begin{bmatrix} 2 \\ 3 \end{bmatrix}$, $u_2 = \begin{bmatrix} 1 \\ 1 \end{bmatrix}$, and $u_3 = \begin{bmatrix} 1 \\ 0 \end{bmatrix}$. Is $\{u_1, u_2, u_3\}$ linearly dependent?

3. (4) Suppose $u_1 = \begin{bmatrix} 2 \\ 0 \\ 3 \\ 0 \end{bmatrix}$, $u_2 = \begin{bmatrix} 0 \\ 0 \\ 0 \\ 1 \end{bmatrix}$, and $u_3 = \begin{bmatrix} 0 \\ 0 \\ 1 \\ 1 \end{bmatrix}$. Is $\{u_1, u_2, u_3\}$ linearly dependent?