

Name:
Student ID:

Tuesday section time:

Math 20F - Linear Algebra - Winter 2003

Quiz #3 $\frac{1}{2}$ — February 4

Do not hand in this quiz: it is for self-assessment.

Try this quiz without referring to the answers (on back of paper copy) first!

1. Let $S = \left\{ \begin{pmatrix} x \\ y \end{pmatrix} \in \mathbb{R}^2 : x^2 \geq y \right\}$. Is S a subspace of \mathbb{R}^2 ? Prove your answer.

2. Let $\mathbf{v}_1 = \begin{pmatrix} 1 \\ 2 \\ 3 \end{pmatrix}$ and $\mathbf{v}_2 = \begin{pmatrix} 4 \\ 5 \\ 6 \end{pmatrix}$. Is $\{\mathbf{v}_1, \mathbf{v}_2\}$ a spanning set for \mathbb{R}^3 .
If not, give an example of a $\mathbf{x} \in \mathbb{R}^3$ which is not in $\text{span}(\mathbf{v}_1, \mathbf{v}_2)$.