Name:
J#:
Date:

Dr. Clontz

MASTERY QUIZ DAY 11 Math 237 – Linear Algebra
Version 6 Fall 2017

Show all work. Answers without work will not receive credit. You may use a calculator, but you must show all relevant work to receive credit for a standard.

Standard V2.	Mark:

Determine if $\begin{bmatrix}1\\4\\3\end{bmatrix}$ is a linear combination of the vectors $\begin{bmatrix}3\\0\\-1\end{bmatrix}$, $\begin{bmatrix}1\\-1\\4\end{bmatrix}$, and $\begin{bmatrix}5\\1\\-6\end{bmatrix}$.

Solution:

$$\text{RREF}\left(\left[\begin{array}{ccc|c}3&1&5&1\\0&-1&1&4\\-1&4&-6&3\end{array}\right]\right)=\left[\begin{array}{ccc|c}1&0&2&0\\0&1&-1&0\\0&0&0&1\end{array}\right]$$

So $\begin{bmatrix}1\\4\\3\end{bmatrix}$ is not a linear combination of the three vectors.

□

Additional Notes/Marks	