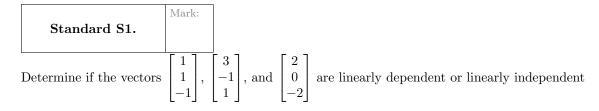
Name:	
J#:	Dr. Clontz
Date:	

MASTERY QUIZ DAY 18

Math 237 – Linear Algebra Fall 2017

Version 5 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 S3.
$$\begin{bmatrix} & & & & \\ & & & & \\ & & & \\ & & & \end{bmatrix}$$
 Let $W = \operatorname{span} \left(\left\{ \begin{bmatrix} -3 \\ -8 \\ 0 \end{bmatrix}, \begin{bmatrix} 1 \\ 2 \\ 2 \end{bmatrix}, \begin{bmatrix} 0 \\ -1 \\ 3 \end{bmatrix} \right\} \right)$. Find a basis for W .

Standard S4.

$$\begin{bmatrix} 1 \\ -1 \\ 3 \\ -3 \end{bmatrix}, \begin{bmatrix} 2 \\ 0 \\ 1 \\ 1 \end{bmatrix}, \begin{bmatrix} 3 \\ -1 \\ 4 \\ -2 \end{bmatrix}, \begin{bmatrix} 1 \\ 1 \\ 1 \\ -7 \end{bmatrix}$$
Compute the dimension of W .

Standard A1.

Mark:

Let $T: \mathbb{R}^3 \to \mathbb{R}$ be the linear transformation given by

$$T\left(\begin{bmatrix} x_1\\x_2\\x_3\end{bmatrix}\right) = \begin{bmatrix} x_2 + 3x_3\end{bmatrix}$$

. Write the matrix for T with respect to the standard bases of \mathbb{R}^3 and \mathbb{R} .

Standard A2.

Mark:

Determine if $D: M_{2,2} \to \mathbb{R}$ given by $D\left(\begin{bmatrix} a & b \\ c & d \end{bmatrix}\right) = ad - bc$ is a linear transformation or not.

 ${\bf Additional\ Notes/Marks}$