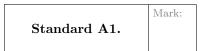
Name:	
J#:	Dr. Clontz
Date:	

MASTERY QUIZ DAY 24

Math 237 – Linear Algebra Fall 2017

Version 5

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.



Let $T: \mathbb{R}^4 \to \mathbb{R}^2$ be the linear transformation given by

$$T\left(\begin{bmatrix} x_1\\x_2\\x_3\\x_4\end{bmatrix}\right) = \begin{bmatrix} x_1 + 3x_3\\3x_2 - 5x_3\end{bmatrix}.$$

Write the matrix for T with respect to the standard bases of \mathbb{R}^4 and \mathbb{R}^2 .

Standard A2.

Mark:

Determine if the map $T: \mathcal{P}^3 \to \mathcal{P}^4$ given by T(f(x)) = xf(x) - f(x) is a linear transformation or not.

Standard M1.

Mark:

Let

$$C = \begin{bmatrix} 2 & 3 \\ 0 & 1 \end{bmatrix} \qquad \qquad D = \begin{bmatrix} 3 & 1 & 0 \end{bmatrix} \qquad \qquad E = \begin{bmatrix} 2 & 0 \\ 0 & -1 \\ 1 & -1 \end{bmatrix}$$

Determine which of the six products CD, CE, DC, DE, EC, ED can be computed, and compute them.

	Ma	rk:			
Standard M2.					
Determine if the matrix	$\begin{bmatrix} 3 \\ 2 \\ 0 \\ 1 \end{bmatrix}$	$ \begin{array}{c c} -1 \\ 1 \\ 1 \\ -2 \end{array} $	0 1 1 0	$\begin{bmatrix} 4 \\ 1 \\ -1 \\ 3 \end{bmatrix}$	is invertible.

Standard M3. $\begin{bmatrix} & & & \\ & & &$

Additional Notes/Marks