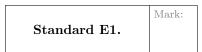
Name:	
J#:	Dr. Clontz
Date:	

MASTERY QUIZ DAY 10

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.



Write a system of linear equations corresponding to the following augmented matrix.

$$\begin{bmatrix} -4 & -1 & 3 & 2 \\ 1 & 2 & -1 & 0 \\ -1 & 4 & 1 & 4 \end{bmatrix}$$

	Mark:
Standard E3.	

Solve the system of linear equations.

$$2x + y - z + w = 5$$
$$3x - y - 2w = 0$$
$$-x + 5z + 3w = -1$$

Standard E4.

Mark:

Find a basis for the solution set to the system of equations

$$x + 2y - 3z = 0$$
$$2x + y - 4z = 0$$
$$3y - 2z = 0$$
$$x - y - z = 0$$

Standard V1.

Mark:

Let V be the set of all points on the line x + y = 2 with the operations, for any $(x_1, y_1), (x_2, y_2) \in V$, $c \in \mathbb{R}$,

$$(x_1, y_1) \oplus (x_2, y_2) = (x_1 + x_2 - 1, y_1 + y_2 - 1)$$

 $c \odot (x_1, y_1) = (cx_1 - (c - 1), cy_1 - (c - 2))$

- (a) Show that this vector space has an additive identity element.
- (b) Determine if V is a vector space or not. Justify your answer.