Name:	
J#:	Dr. Clontz
Date:	

MASTERY QUIZ DAY 10   Math 237 – Linear Algebra
Version 3   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 E1.	Mark:

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

$$\left[\begin{array}{ccc|c} -4 & -1 & 3 & 2 \\ 1 & 2 & -1 & 0 \\ -1 & 4 & 1 & 4 \end{array}\right]$$

Standard E3.	Mark:

Solve the following linear system.

$$3x + 2y + z = 7$$
$$x + y + z = 1$$
$$-2x + 3z = -11$$

	Mark:
Standard E4.	

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

$$4x_1 + 4x_2 + 3x_3 - 6x_4 = 0$$
$$-2x_3 - 4x_4 = 0$$
$$2x_1 + 2x_2 + x_3 - 4x_4 = 0$$

	Mark:
Standard V1.	

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

$$(x_1, y_1) \oplus (x_2, y_2) = (x_1 + x_2 - 1, y_1 + y_2 - 1)$$
$$c \odot (x_1, y_1) = (cx_1 - (c-1), cy_1 - (c-2))$$

Determine if V is a vector space or not.

Additional Notes/Marks	