Name:	
J#:	Dr. Clontz
Date:	

MASTERY QUIZ DAY 14

Math 237 – Linear Algebra Fall 2017

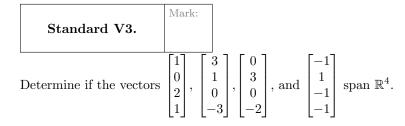
Version 6

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 V be the set of all real numbers together with the operations \oplus and \odot defined by, for any $x,y \in V$ and $c \in \mathbb{R}$,

$$x \oplus y = x + y - 3$$
$$c \odot x = cx - 3(c - 1)$$

- (a) Show that this scalar multiplication \odot is associative.
- (b) Determine if V is a vector space or not. Justify your answer



Standard V4.	Mark:
--------------	-------

Let W be the set of all complex numbers a+bi satisfying a=2b. Determine if W is a subspace of $\mathbb C$.

Standard S2.

Mark:

Determine if the set $\{x^2 + x - 1, 3x^2 - x + 1, 2x - 2\}$ is a basis of \mathcal{P}_2

Additional Notes/Marks