Name:	
J#:	Dr. Clontz
Date:	

Math 237 – Linear Algebra Fall 2017

Version 1

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 V3.

$$\begin{bmatrix} 2 \\ -1 \\ 4 \end{bmatrix}, \begin{bmatrix} 3 \\ 12 \\ -9 \end{bmatrix}, \begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix}, \begin{bmatrix} -4 \\ 2 \\ -8 \end{bmatrix} = \mathbb{R}^3?$$

Standard V4.

Let W be the set of all  $\mathbb{R}^3$  vectors  $\begin{bmatrix} x \\ y \\ z \end{bmatrix}$  satisfying x+y+z=0 (this forms a plane). Determine if W is a subspace of  $\mathbb{R}^3$ .

Standard S2.  $\begin{bmatrix} & & & \\ & & & \\ & & & \end{bmatrix}$  Determine if the set  $\left\{ \begin{bmatrix} 3 & -1 \\ 2 & 3 \end{bmatrix}, \begin{bmatrix} 2 & 0 \\ 2 & 4 \end{bmatrix}, \begin{bmatrix} 1 & 4 \\ -1 & 8 \end{bmatrix}, \begin{bmatrix} -1 & 3 \\ 0 & 4 \end{bmatrix} \right\}$  is a basis of  $\mathbb{R}^{2 \times 2}$ .

Name:	
J#:	Dr. Clontz
Date:	

# MASTERY QUIZ DAY 17 Version 2

Math 237 – Linear Algebra 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.

Standar	rd V3.		Ma	ırk:	
Does span {	$\begin{bmatrix} 2 \\ -1 \\ 4 \\ 2 \\ 1 \end{bmatrix},$	$\begin{bmatrix} -1\\3\\5\\2\\0 \end{bmatrix}$	,	$\begin{bmatrix} 1 \\ 0 \\ 5 \\ 1 \\ -3 \end{bmatrix}$	$\left.\begin{array}{c} \\ \\ \end{array}\right\} = \mathbb{R}^5?$

	Mark:
Standard V4.	

Let W be the set of all complex numbers that are purely real (i.e of the form a+0i) or purely imaginary (i.e. of the form 0+bi). Determine if W is a subspace of  $\mathbb{C}$ .

Standard S2.  $\begin{bmatrix} & & & \\ & & & \\ & & & \end{bmatrix}$  Determine if the set  $\left\{ \begin{bmatrix} 3 & -1 \\ 2 & 3 \end{bmatrix}, \begin{bmatrix} 2 & 0 \\ 2 & 4 \end{bmatrix}, \begin{bmatrix} 1 & 4 \\ -1 & 8 \end{bmatrix}, \begin{bmatrix} -1 & 3 \\ 0 & 4 \end{bmatrix} \right\}$  is a basis of  $\mathbb{R}^{2 \times 2}$ .

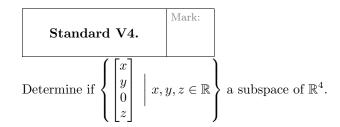
Name:	
J#:	Dr. Clontz
Date:	

Math 237 – Linear Algebra Fall 2017

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 V3.

Mark:
$$\begin{bmatrix} 2 \\ 0 \\ -2 \\ 0 \end{bmatrix}, \begin{bmatrix} 3 \\ 1 \\ 3 \\ 6 \end{bmatrix}, \begin{bmatrix} 0 \\ 0 \\ 1 \\ 1 \end{bmatrix}, \text{ and } \begin{bmatrix} 1 \\ 2 \\ 0 \\ 1 \end{bmatrix} \text{ span } \mathbb{R}^4.$$



Standard S2.

Mark:

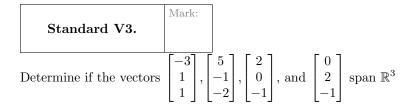
Determine if the set  $\{x^2 + x - 1, 3x^2 - x + 1, 2x^2 - 2\}$  is a basis of  $\mathcal{P}^2$ .

Name:	
J#:	Dr. Clontz
Date:	

Math 237 – Linear Algebra Fall 2017

Version 4

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.



	Mark:
Standard V4.	

Let W be the set of all polynomials of even degree. Determine if W is a subspace of the vector space of all polynomials.

Standard S2.
--------------

Standard S2. Mark: Determine if the set  $\{x^3 - 3x^2 + 2x + 2, -x^3 + 4x^2 - x + 1, -x^3 + 2x + 1, 3x^2 + 3x + 9\}$  is a basis of  $\mathcal{P}^3$  or not.

 ${\bf Additional\ Notes/Marks}$ 

Name:	
J#:	Dr. Clontz
Date:	

Version 5

Math 237 – Linear Algebra 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 V3.

Does span 
$$\left\{ \begin{bmatrix} 2\\-1\\4 \end{bmatrix}, \begin{bmatrix} 3\\12\\-9 \end{bmatrix}, \begin{bmatrix} 1\\4\\-3 \end{bmatrix}, \begin{bmatrix} -4\\2\\-8 \end{bmatrix} \right\} = \mathbb{R}^3$$
?

	Mark:
Standard V4.	

Let W be the set of all polynomials of even degree. Determine if W is a subspace of the vector space of all polynomials.

Standard S2.  $\begin{bmatrix} & & & \\ & & & \\ & & & \\ & & -1 \\ 2 \end{bmatrix}, \begin{bmatrix} 2 \\ 0 \\ 2 \end{bmatrix}, \begin{bmatrix} 1 \\ 4 \\ -1 \end{bmatrix}$  is a basis of  $\mathbb{R}^3$ .

Name:	
J#:	Dr. Clontz
Date:	

Version 6

Math 237 – Linear Algebra 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.

	Mark:
Standard V4.	

Let W be the set of all complex numbers that are purely real (i.e of the form a + 0i) or purely imaginary (i.e. of the form 0 + bi). Determine if W is a subspace of  $\mathbb{C}$ .

Standard S2.  $\begin{bmatrix} & & & \\ & & & \\ & & & \end{bmatrix}$  Determine if the set  $\left\{ \begin{bmatrix} 3 & -1 \\ 2 & 3 \end{bmatrix}, \begin{bmatrix} 2 & 0 \\ 2 & 4 \end{bmatrix}, \begin{bmatrix} 1 & 4 \\ -1 & 8 \end{bmatrix}, \begin{bmatrix} -1 & 3 \\ 0 & 4 \end{bmatrix} \right\}$  is a basis of  $\mathbb{R}^{2 \times 2}$ .