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

Mark: Standard E2.

Put the following matrix in reduced row echelon form.

all relevant work to receive credit for a standard.

$$\begin{bmatrix} 3 & -1 & 0 \\ -1 & 0 & -1 \\ -1 & 1 & 2 \\ 0 & 2 & 6 \end{bmatrix}$$

Solution:

$$\begin{bmatrix} 3 & -1 & 0 \\ -1 & 0 & -1 \\ -1 & 1 & 2 \\ 0 & 2 & 6 \end{bmatrix} \sim \begin{bmatrix} -1 & 0 & -1 \\ 3 & -1 & 0 \\ -1 & 1 & 2 \\ 0 & 2 & 6 \end{bmatrix} \sim \begin{bmatrix} 1 & 0 & 1 \\ 3 & -1 & 0 \\ -1 & 1 & 2 \\ 0 & 2 & 6 \end{bmatrix} \sim \begin{bmatrix} 1 & 0 & 1 \\ 0 & -1 & -3 \\ 0 & 1 & 3 \\ 0 & 2 & 6 \end{bmatrix} \sim \begin{bmatrix} 1 & 0 & 1 \\ 0 & 1 & 3 \\ 0 & -1 & -3 \\ 0 & 2 & 6 \end{bmatrix} \sim \begin{bmatrix} 1 & 0 & 1 \\ 0 & 1 & 3 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$$

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Version 2

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 E2.

Mark:

Find RREF A, where

 $A = \begin{bmatrix} 3 & -2 & 1 & 8 & | & -5 \\ 2 & 2 & 0 & 6 & | & -2 \\ -1 & 1 & 1 & -4 & | & 6 \end{bmatrix}$

Solution:

 $RREF A = \begin{bmatrix} 1 & 0 & 0 & 3 & | & -2 \\ 0 & 1 & 0 & 0 & | & 1 \\ 0 & 0 & 1 & -1 & | & 3 \end{bmatrix}$

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Version 3

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 E2.

Mark:

Put the following matrix in reduced row echelon form.

$$\begin{bmatrix} -3 & 1 & 0 & 2 \\ -8 & 2 & -1 & 6 \\ 0 & 2 & 3 & -2 \end{bmatrix}$$

Solution:

$$\begin{bmatrix} -3 & 1 & 0 & 2 \\ -8 & 2 & -1 & 6 \\ 0 & 2 & 3 & -2 \end{bmatrix} \sim \begin{bmatrix} 1 & -\frac{1}{3} & 0 & -\frac{2}{3} \\ -8 & 2 & -1 & 6 \\ 0 & 2 & 3 & -2 \end{bmatrix} \sim \begin{bmatrix} 1 & -\frac{1}{3} & 0 & -\frac{2}{3} \\ 0 & -\frac{2}{3} & -1 & \frac{2}{3} \\ 0 & 2 & 3 & -2 \end{bmatrix} \sim \begin{bmatrix} 1 & -\frac{1}{3} & 0 & -\frac{2}{3} \\ 0 & 1 & \frac{3}{2} & -1 \\ 0 & 2 & 3 & -2 \end{bmatrix} \sim \begin{bmatrix} 1 & 0 & \frac{1}{2} & -1 \\ 0 & 1 & \frac{3}{2} & -1 \\ 0 & 0 & 0 & 0 \end{bmatrix}$$

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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 E2.	

Find RREF A, where

$$A = \begin{bmatrix} 2 & -1 & 5 & | & 4 \\ -1 & 0 & -2 & | & -1 \\ 1 & 3 & -1 & | & -5 \end{bmatrix}$$

Solution:

RREF
$$A = \begin{bmatrix} 1 & 0 & 2 & 1 \\ 0 & 1 & -1 & -2 \\ 0 & 0 & 0 & 0 \end{bmatrix}$$

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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.

Standard E2.

Mark:

Find RREF A, where

 $A = \begin{bmatrix} 3 & -2 & 1 & 8 & | & -5 \\ 2 & 2 & 0 & 6 & | & -2 \\ -1 & 1 & 1 & -4 & | & 6 \end{bmatrix}$

Solution:

 $RREF A = \begin{bmatrix} 1 & 0 & 0 & 3 & | & -2 \\ 0 & 1 & 0 & 0 & | & 1 \\ 0 & 0 & 1 & -1 & | & 3 \end{bmatrix}$

Name:	
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Date:	

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.

Standard E2.

Mark:

Find RREF A, where

$$A = \begin{bmatrix} 3 & -2 & 1 & 8 & | & -5 \\ 2 & 2 & 0 & 6 & | & -2 \\ -1 & 1 & 1 & -4 & | & 6 \end{bmatrix}$$

Solution:

$$RREF A = \begin{bmatrix} 1 & 0 & 0 & 3 & | & -2 \\ 0 & 1 & 0 & 0 & | & 1 \\ 0 & 0 & 1 & -1 & | & 3 \end{bmatrix}$$