

Math 4133 - Linear Algebra

Quiz #4 - 2014.01.31

Name: _____

Consider the following matrices:

$$E_1 = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & -5 \end{bmatrix}, \quad E_2 = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 4 & 0 & 1 \end{bmatrix}$$

1. If $A \in \mathbb{R}^{3 \times 4}$, what will left matrix multiplication by E_1 do to A ?

2. If $A \in \mathbb{R}^{3 \times 4}$, what will left matrix multiplication by E_2 do to A ?

3. Which of the following matrices will have an inverse?

$$B = \begin{bmatrix} -1 & 2 \\ -2 & 3 \end{bmatrix}, \quad C = \begin{bmatrix} -1 & 2 \\ 1 & -2 \end{bmatrix}, \quad D = \begin{bmatrix} -1 & 0 \\ 5 & 0 \end{bmatrix}$$