Dr. Z.'s REAL Quiz #4

NAME: (print!) _____

E-MAIL ADDRESS: (print!) _____

1. (3 pts.) Find an elemenary matrix E such that $EA = B$, where A and B are as follows:

$$A = \begin{bmatrix} 1 & 2 & -2 & 1 \\ 3 & -1 & 0 & 1 \\ -1 & 1 & 6 & 1 \end{bmatrix} \quad \textit{and} \quad B = \begin{bmatrix} 1 & 2 & -2 & 1 \\ 3 & -1 & 0 & 1 \\ 0 & 3 & 4 & 2 \end{bmatrix}$$

2. (3 pts.) Determine whether the following matrix is invertible, and if it is, finds its inverse

$$\begin{bmatrix} 2 & 3 \\ 3 & 5 \end{bmatrix}$$

3. True or False (Explain when appropriate)

(a) (1 pt.) If a square matrix has a column consisting of all zeros, then it must be invertible.

(b) (1 pt.) The pivot columns of a matrix are sometimes linearly dependent.