

Dr. Z.'s Math 250(1), (Fall 2010, RU) REAL Quiz #1 (Sept. 16, 2010)

NAME: (print!) \_\_\_\_\_

E-MAIL ADDRESS: (print!) \_\_\_\_\_

1. (4 pts.) Compute the matrix-vector product

$$\begin{bmatrix} 2 & -3 \\ -4 & 5 \end{bmatrix} \begin{bmatrix} a \\ b \end{bmatrix},$$

where  $a$  and  $b$  are real numbers.

2. (4 pts.) The *reduced row echelon form* of a certain system of linear equations is:

$$\begin{bmatrix} 1 & -2 & 0 & 0 & -3 \\ 0 & 0 & 1 & 0 & -4 \\ 0 & 0 & 0 & 1 & 5 \end{bmatrix}.$$

3. True or False (Explain when appropriate)

- (a) (1 pt.) If a matrix is in row echelon form, the leading entry of each non-zero must be 1 .
- (b) (1 pt.) Multiplying every entry of some row of a matrix by a non-zero scalar is an elementary row operation.