

Name: _____
Student ID #: _____

Mini-Quiz # 3
MAT-022A-Summer Session II (8/7/09)

You have 10 minutes. You may only use a pencil (or pen) and scrap paper. No calculators, notes or books.

1. For the following matrices state whether they are in (i) reduced row echelon form (RREF), (ii) row echelon form but not RREF, or (iii) neither. (2 points each).

(a) $\begin{bmatrix} 1 & 1 & 0 & 0 \\ 0 & 1 & 1 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}$

(b) $\begin{bmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 1 & 0 & 0 & 0 & 0 \end{bmatrix}$

(c) $\begin{bmatrix} 0 & 1 & 2 & 3 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$

2. Use elementary row operations to reduce the following matrix into reduced row echelon form. You must clearly indicate which elementary row operation you are using and show the resulting transformation at each step. (4 points. Use reverse side if necessary.)

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