

Name: \_\_\_\_\_

Section: \_\_\_\_\_

1. Compute the inverse of the following matrix by row reduction (it is indeed invertible):

$$\begin{bmatrix} 3 & -4 & 3 \\ 2 & -4 & 3 \\ -2 & 3 & -2 \end{bmatrix}$$

2. Is the linear transformation that gives rise to the following transformation one-to-one? Onto? Do not use row reduction.

$$\begin{bmatrix} 1 & 2 & 3 \\ 2 & 4 & 6 \\ 0 & 0 & 1 \end{bmatrix}$$

3. Provide an example or explain why none exists of a  $2 \times 3$  matrix  $A$  and a  $3 \times 2$  matrix  $C$  such that  $CA = I_3$ . If an example exists, try to give the simplest possible example you can find.