

**Math 228: Intro to Lin Alg & Diff Eqns**

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

**Quiz 1** *Jan. 24, 2002*

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

1. Determine whether the linear system represented by each of the following augmented matrices has no solution, exactly one solution, or infinitely many solutions.

a) 
$$\begin{bmatrix} 1 & 1 & 1 & 1 \\ 0 & 0 & 1 & 2 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

b) 
$$\begin{bmatrix} 1 & 1 & 1 & 1 \\ 1 & 2 & 3 & 4 \\ 2 & 3 & 4 & 5 \end{bmatrix}$$

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

2. Let  $A = \begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}$ ,  $B = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ , and  $C = \begin{bmatrix} 1 & -1 & 2 \\ -1 & 2 & 1 \end{bmatrix}$ . Carry out each of the following matrix operations, if it is defined.

a)  $2A - B$

b)  $C \cdot A$

c)  $B \cdot C$