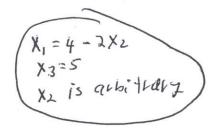


PRINT Your Name:_

There are 10 problems on 5 pages. Each problem is worth 10 points. SHOW your work. CIRCLE your answer. CHECK your answer whenever possible.

1. Solve the system of equations which corresponds to the following matrix:

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



2. Solve the system of equations which corresponds to the following matrix:

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

3. Are the vectors $v_1 = \begin{bmatrix} 1 \\ 2 \end{bmatrix}$, and $v_2 = \begin{bmatrix} 2 \\ 4 \end{bmatrix}$ linearly independent or linearly dependent? Explain!!

They are linearly dependent to easy
$$-\lambda \begin{bmatrix} 1 \\ 2 \end{bmatrix} + \begin{bmatrix} 2 \\ 4 \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \end{bmatrix}$$

4. Are the vectors $v_1 = \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix}$, $v_2 = \begin{bmatrix} 1 \\ 1 \\ 0 \end{bmatrix}$, and $v_3 = \begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix}$ linearly independent or linearly dependent? Explain!!