

Name:

1. Use the method of elimination to reduce the following matrix to echelon form.

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

2. Determine all elements of the null space of the matrix

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

from the previous problem.

3. One solution of $Ax = (1, 2, -1)$ is given by $(1, 0, 0, 0, 0)$. What are all the other solutions?