

Name:

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

$$A = \begin{bmatrix} 2 & 3 & 4 & 1 & 6 \\ 4 & 6 & 7 & 5 & 14 \\ -2 & -3 & -5 & 2 & -3 \end{bmatrix}$$

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

$$A = \begin{bmatrix} 2 & 3 & 4 & 1 & 6 \\ 4 & 6 & 7 & 5 & 14 \\ -2 & -3 & -5 & 2 & -3 \end{bmatrix}$$

from the previous problem.

3. One solution of  $Ax = (2, 4, -2)$  is given by  $(1, 0, 0, 0, 0)$ . What are all the other solutions?