Math 486/522 - Homework 1 - Review of Matrices

Fall 2024 **Len Washington III**

Review solving linear equations using matrices in any linear algebra text or check out Paul Dawkins' linear algebra notes that are linked on the homework page.

For problems 1 and 2, convert the system of equations into a matrix problem $A\vec{x} = \vec{b}$ by defining A and $\vec{b}$. Define an augmented matrix $(A|b)$. Solve using Gaussian elimination to convert A into upper triangular or row-echelon form. Show all steps.

1. Consider the linear system:

$$x_1 - x_2 - x_3 = -3$$