

## Worksheet - Lecture 6

### Gaussian Elimination

1. Using Gaussian Elimination on the augmented matrices, reduce each system of equations to a triangular form and solve using back-substitution.

a.

$$\begin{cases} x_1 + 2x_2 = 3 \\ -x_1 + x_2 = 0 \end{cases}$$

b.

$$\begin{cases} x_1 + x_2 + 2x_3 = 7 \\ x_1 + x_3 = 4 \\ -2x_1 - 2x_2 = -6 \end{cases}$$

c.

$$\begin{cases} 2x_1 - x_2 + x_3 = 1 \\ -x_1 + 2x_2 + 3x_3 = 6 \\ x_2 + 4x_3 = 6 \end{cases}$$