San Jose State University
Department of Mathematics

MATH 70, Practice Midterm 2, Instructor: Plamen Koev

Problems:

1. Compute the inverse of the matrix:
$$\begin{bmatrix} 2 & 4 & 11 \\ 1 & 1 & 1 \\ -1 & 0 & 3 \end{bmatrix}.$$

2. Solve the linear system:
$$\begin{aligned} 2x_1 + 4x_2 + 11x_3 &= -1 \\ x_1 + x_2 + x_3 &= 1 \\ -x_1 + 3x_3 &= 1 \end{aligned}$$

3. Find the product $A \cdot B$ where
$$A = \begin{bmatrix} 1 & 2 & -3 \\ -2 & 1 & 0 \end{bmatrix} \text{ and } B = \begin{bmatrix} -1 & 3 \\ -2 & 0 \end{bmatrix}.$$