

FERNANDO ARAGON

SEATWORK 5

Aragon Jr fernando #

Seatwork 5

$$\begin{aligned} 7x_1 - 8x_2 + 5x_3 &= 5, \\ -4x_1 + 5x_2 - 3x_3 &= -3 \\ x_1 - x_2 + x_3 &= 0 \end{aligned}$$

$$= A \begin{bmatrix} 7 & -8 & 5 \\ -4 & 5 & -3 \\ 1 & -1 & 3 \end{bmatrix} \quad x = \begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix} \quad C = \begin{bmatrix} 5 \\ -3 \\ 0 \end{bmatrix}$$

$$\begin{bmatrix} 2 & 1 & -1 \\ 3 & 2 & -1 \\ -1 & 1 & 3 \end{bmatrix} = \text{Adj}(A) \quad \begin{bmatrix} 2 & 2 & -1 \\ 1 & 3 & 1 \\ -1 & -1 & 3 \end{bmatrix}$$

$$A^{-1} = \frac{1}{|A|} \begin{bmatrix} 2 & 2 & -1 \\ 1 & 3 & 1 \\ -1 & -1 & 3 \end{bmatrix} \quad A^{-1} = \begin{bmatrix} 2 & 3 & -1 \\ 1 & 2 & 1 \\ -1 & -1 & 3 \end{bmatrix} \begin{bmatrix} 5 \\ -3 \\ 0 \end{bmatrix}$$

$$\begin{bmatrix} 2(5) + 3(-3) + (-1)(0) \\ 1(5) + 2(-3) + (1)(0) \\ -1(5) + (-1)(-3) + (3)(0) \end{bmatrix} = \begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix} = \begin{bmatrix} 1 \\ -1 \\ 2 \end{bmatrix}$$