
Problem 1. (1 point) Library/WHFreeman/Holt_linear_algebra/Chaps_1-4/2.2.13.pg

Find A , and \mathbf{b} such that $A\mathbf{x} = \mathbf{b}$ corresponds to the given linear system.

$$5x_1 + 1x_2 - 8x_3 = 5$$

$$0x_1 + 3x_2 - 6x_3 = 3$$

$$\begin{bmatrix} _ & _ & _ \\ _ & _ & _ \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix} = \begin{bmatrix} _ \\ _ \end{bmatrix}$$

Problem 2. (1 point) Library/WHFreeman/Holt_linear_algebra/Chaps_1-4/2.1.12.pg

Express the following system of linear equations as a vector equation.

$$6x_1 - 3x_2 - 4x_3 = -8$$

$$-3x_1 + 5x_2 + 8x_3 = -3$$

$$-2x_1 + 2x_2 + 9x_3 = 5$$

$$\begin{bmatrix} _ \\ _ \\ _ \end{bmatrix} x_1 + \begin{bmatrix} _ \\ _ \\ _ \end{bmatrix} x_2 + \begin{bmatrix} _ \\ _ \\ _ \end{bmatrix} x_3 = \begin{bmatrix} _ \\ _ \\ _ \end{bmatrix}$$

Problem 3. (1 point) METUNCC/Linear_Algebra/p23.pg

Let

$$A = \begin{bmatrix} 3 & 1 & 3 \\ 3 & -1 & 5 \end{bmatrix} \quad \text{and} \quad B = \begin{bmatrix} 8 & 0 \\ 4 & -4 \\ 3 & 5 \end{bmatrix}$$

Multiply:

$$AB = \begin{bmatrix} \text{---} & \text{---} \\ \text{---} & \text{---} \end{bmatrix}$$

and

$$BA = \begin{bmatrix} \text{---} & \text{---} & \text{---} \\ \text{---} & \text{---} & \text{---} \\ \text{---} & \text{---} & \text{---} \end{bmatrix}$$

Problem 4. (1 point) METUNCC/Linear_Algebra/solve_lower-triangular.pg

Solve the division problem

$$\begin{bmatrix} 3 & 0 & 0 \\ -4 & 5 & 0 \\ -4 & 3 & 1 \end{bmatrix} \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} -3 \\ 14 \\ 12 \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} \text{---} \\ \text{---} \\ \text{---} \end{bmatrix}$$

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