Linear Algebra 1E2
Tutorial 1

Problem 1

Find the augmented matrix for the following system of linear equations.

$$2x_1 + 3x_3 = 2$$
$$4x_1 - 3x_2 + x_3 = -9$$
$$2x_1 + x_2 - 7x_3 = 4$$

Problem 2

Solve the following system by Gauss–Jordan elimination.

$$x_1 - x_2 + x_3 = 3$$
$$6x_1 - 5x_2 + 5x_3 = 23$$
$$5x_1 - 5x_2 + 6x_3 = 20$$

Problem 3

Solve the following system for x, y, and z

$$\frac{1}{x} + \frac{6}{y} - \frac{1}{z} = 8$$
$$\frac{1}{x} + \frac{7}{y} + \frac{4}{z} = 4$$
$$\frac{5}{x} + \frac{30}{y} - \frac{4}{z} = 45$$