

EE 2240
Problem #03

Write the following set of equations in matrix form.

$$x = y, \quad y = x - 2z - 4, \quad z = y - 3$$

Rearranging terms, we have:

$$x - y = 0$$

$$x - y - 2z = 4$$

$$y - z = 3$$

In matrix form:

$$\begin{bmatrix} 1 & -1 & 0 \\ 1 & -1 & -2 \\ 0 & 1 & -1 \end{bmatrix} \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} 0 \\ 4 \\ 3 \end{bmatrix}$$