Exercises Set 2

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Abstract

Only the questions with a * are compulsory (but do all of them!).

1 Systems of Linear Equations

(*) Find the Reduced Row Echelon Form of the following matrix:

$$\begin{pmatrix} 1 & 2 & 3 & 4 \\ 0 & 6 & 2 & 3 \\ 0 & 0 & 0 & 10 \end{pmatrix}$$

Solve the following linear system using Gaussian Elimination:

$$2x + y - z = 4$$
$$3x + 2y + z = 5$$
$$x - y + 3z = 7$$

Start by writing the augmented matrix for the system and perform the necessary row operations to find the solution.