1-1 In-Class Exercise

1. Apply Elementary Row Operation on its augmented matrix to solve the following SLE

$$2x + z = 1$$
$$x - 2y + 4z = 7$$
$$4x + y - z = 0$$

1-1 Suggested Exercise

1. Under what conditions on a and b will the linear system have no solutions, one solution, infinitely many solutions?

$$\begin{aligned} 2x - 3y &= a \\ 4x - 6y &= b \end{aligned}$$

2. Solve the following SLE and use parametric equations to describe the solution set.

$$\begin{aligned} x_1 + 3x_2 - x_3 &= -4 \\ 3x_1 + 9x_2 - 3x_3 &= -12 \\ -x_1 - 3x_2 + x_3 &= 4 \end{aligned}$$

3. Find all values of k for which the given augmented matrix corresponds to a consistent linear system.

$$\begin{bmatrix} k & 1 & -2 \\ 4 & -1 & 2 \end{bmatrix}$$

4. Find all values of k for which the given augmented matrix corresponds to a consistent linear system.

$$\begin{bmatrix} 1 & k & -4 \\ 4 & 8 & 2 \end{bmatrix}$$