

Example 1. Solve the following system by using the Gauss-Jordan elimination method. Conclude that the system of equations is inconsistent, i.e., it has no solutions.

$$\begin{cases} x + 2y - 3z = 2 \\ 6x + 3y - 9z = 6 \\ 7x + 14y - 21z = 13 \end{cases}$$

Example 2. Solve the following system by using the Gauss-Jordan elimination method. Conclude that there are infinitely many solutions for this system.

$$\begin{cases} 4y + z = 2 \\ 2x + 6y - 2z = 3 \\ 4x + 8y - 5z = 4 \end{cases}$$