

Name:

Problem 1: For the system

$$\begin{aligned}2x - y - w &= 3 \\ y + z + 2w &= 2 \\ x - 2y - z &= -1\end{aligned}$$

can the vector

$$\begin{pmatrix} 0 \\ -3 \\ 5 \\ 0 \end{pmatrix}$$

be used as the particular solution part of some general solution?