

Problem 1. Describe all solutions of $A\mathbf{x} = \mathbf{b}$ in parametric vector form, where

$$A = \begin{pmatrix} 1 & 2 & 0 & 4 \\ 2 & 4 & 1 & 9 \\ 2 & 4 & -1 & 7 \end{pmatrix} \text{ and } \mathbf{b} = \begin{pmatrix} 1 \\ 5 \\ -1 \end{pmatrix}.$$