Tema

$$\begin{cases} -x + 3y - z = 1 \\ -x + 4y - 3z = 2 \\ -x + 5y - 4z = 3 \end{cases}$$

$$\left(\begin{array}{ccc|c} \boxed{-1} & 3 & -1 & 1 \\ -1 & 4 & -3 & 2 \\ -1 & 5 & -4 & 3 \end{array}\right) \begin{array}{l} L_2 \leftarrow L_2 - L_1 \\ \\ L_3 \leftarrow L_3 - L_1 \end{array} \left(\begin{array}{ccc|c} -1 & 3 & -1 & 1 \\ 0 & 1 & -2 & 1 \\ 0 & 2 & -3 & 2 \end{array}\right) L_3 \leftarrow L_3 - 2L_2$$

$$\left(\begin{array}{ccc|c} -1 & 3 & -1 & 1 \\ 0 & 1 & -2 & 1 \\ 0 & 0 & 1 & 0 \end{array}\right) \Rightarrow \begin{cases} -x + 3y - \cancel{z} = 1 \\ y - 2z = 1 \\ z = 0 \end{cases}$$

$$\boxed{z = 0} \Rightarrow y = 1 - 2 \cdot 0 \Rightarrow \boxed{y = 1}$$

$$-x + 3y - z = 1 \Rightarrow -x = 1 + z - 3y$$

$$-x = 1 - 3 \Rightarrow \boxed{x = 2}$$

$$S = \{(2, 1, 0)\}$$