$\boxed{\text{rB1j}}$ $\triangleright$ **Exercice** - EXERCICE 1. Résoudre le système :

$$\begin{cases} 2x + 4y + 3z - t = 5 \\ x + 2y + 4z - 3t = 10 \\ -x + 4y + 3z - 2t = 1 \\ 3x + y - z + 2t = 0 \end{cases}$$

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$$\begin{cases} 2x + 4y + 3z - t = 5 \\ x + 2y + 4z - 3t = 10 \\ -x + 4y + 3z - 2t = 1 \\ 3x + y - z + 2t = 0 \end{cases}$$

$$\begin{array}{l} \ell_1 \leftarrow \ell_1 \\ \ell_2 \leftarrow \ell_3 + \ell_4 \\ \ell_3 \leftarrow -\frac{1}{5}\ell_2 \\ \ell_4 \leftarrow \ell_4 \end{array} \begin{cases} x + 2y + 4z - 3t = 10 \\ y - 6z + 6t = -19 \\ z - t = 3 \\ -5y - 13z + 11t = -30 \end{cases}$$

$$\begin{array}{l} \ell_1 \leftarrow \ell_1 \\ \ell_2 \leftarrow \ell_2 \\ \ell_3 \leftarrow \ell_3 \\ \ell_4 \leftarrow \ell_4 + 5\ell_2 \end{array} \begin{cases} x + 2y + 4z - 3t = 10 \\ y - 6z + 6t = -19 \\ z - t = 3 \\ -43z + 41t = -125 \end{cases}$$

$$\begin{array}{l} \ell_1 \leftarrow \ell_1 \\ \ell_2 \leftarrow \ell_2 \\ \ell_3 \leftarrow \ell_3 \\ \ell_4 \leftarrow \ell_4 + 43\ell_3 \end{array} \begin{cases} x + 2y + 4z - 3t = 10 \\ y - 6z + 6t = -19 \\ z - t = 3 \\ -2t = 4 \end{cases}$$

$$\mathcal{S} = \{(2, -1, 1, -2)\}$$

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