

$$m = 0 \Rightarrow$$

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

$$\Leftrightarrow \begin{cases} x - y = 1 \\ y - z = 2 \end{cases}$$

$$\Leftrightarrow \begin{cases} x = 3 + z \\ y = 2 + z \end{cases}$$

$$\text{Donc } S = \{ (3+z, 2+z, z), z \in \mathbb{R} \}$$

$$m = -\frac{1}{3} \Rightarrow \text{pas de solution}$$

autrement  $\Rightarrow$

$$x = \frac{m+5}{3m+1}$$

$$y = \frac{4m(m-1)}{3m+1}$$

$$z = \frac{2-m}{3m+1}$$