c) I $4x - y + 2z = 6$

II $x + 2y - z = 6$ | II · 4 − I

III $6x + 3y = 18$ | III · $\frac{2}{3}$ − I

$4x - y + 2z = 6$

$9y - 6z = 18$

$3y - 2z = 6$ | III · 3 − I

$4x - y + 2z = 6 \Rightarrow x = \frac{1}{4}y - \frac{1}{2}z + 1{,}5 = \left(\frac{1}{4}\left(\frac{2}{3}t + 2\right)\right) - \left(\frac{1}{2}(t)\right) + 1{,}5 = -\frac{1}{3}t + 2$

$9y - 6z = 18 \Rightarrow y = \frac{2}{3}z + 2 = \frac{2}{3}t + 2$

$0 = 0 \Rightarrow z = t$

$L = \{(x, y, z) \mid x = -\frac{1}{3}t + 2,\ y = \frac{2}{3}t + 2,\ z = t \text{ und } t \in \mathbb{R}\}$