i) $\begin{cases} x + y - 2z = -4 \\ 2x + y - 5z = 9 \\ -x + y + 4z = -30 \\ x - 2y - 5z = 47 \end{cases}$

$$\left(\begin{array}{ccc|c} 1 & 1 & -2 & -4 \\ 2 & 1 & -5 & 9 \\ -1 & 1 & 4 & -30 \\ 1 & -2 & -5 & 47 \end{array}\right) \begin{matrix} \\ R_2-2R_1 \\ \sim \\ R_3+R_1 \\ R_4-R_1 \end{matrix} \left(\begin{array}{ccc|c} 1 & 1 & -2 & -4 \\ 0 & -1 & -1 & 17 \\ 0 & 2 & 2 & -34 \\ 0 & -3 & -3 & 51 \end{array}\right)$$

$$\begin{matrix} -R_2 \\ \sim \\ \frac{1}{2}R_3 \\ -\frac{1}{3}R_4 \end{matrix} \left(\begin{array}{ccc|c} 1 & 1 & -2 & -4 \\ 0 & 1 & 1 & -17 \\ 0 & 1 & 1 & -17 \\ 0 & 1 & 1 & -17 \end{array}\right) \begin{matrix} \\ R_1-R_2 \\ \sim \\ R_3-R_2 \\ R_4-R_2 \end{matrix} \left(\begin{array}{ccc|c} 1 & 0 & -3 & 13 \\ 0 & 1 & 1 & -17 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{array}\right)$$

$$\begin{cases} x - 3z = 13 \\ y + z = -17 \end{cases} \Leftrightarrow \begin{cases} x = 13 + 3z \\ y = -17 - z \end{cases}$$

$$V = \{(13+3t, -17-t, t) \mid t \in \mathbb{R}\}$$

$r(A_b) = 2$ $\quad R(A) = 2$ $\quad$ 3 onbekenden