

S 214 Nr. 2

$$\begin{array}{l} a) \quad 2x_1 + 4x_2 + 2x_3 = 7 \\ \quad \quad 4x_2 + 2x_3 = 8 \quad | \cdot 1 \\ \quad \quad 4x_2 - x_3 = -1 \quad | \cdot (-1) \\ \hline \end{array}$$

$$\begin{array}{l} 2x_1 + 4x_2 + 2x_3 = 7 \\ \quad \quad 4x_2 + 2x_3 = 8 \\ \quad \quad \quad 3x_3 = 9 \\ \hline \end{array}$$

$$\underline{x_3 = 3}$$

$$4x_2 + 2 \cdot 3 = 8 \Rightarrow 4x_2 = 2 \Rightarrow \underline{x_2 = \frac{1}{2}}$$

$$2x_1 + 4 \cdot \frac{1}{2} + 2 \cdot 3 = 7 \Rightarrow 2x_1 = -1 \Rightarrow \underline{x_1 = -\frac{1}{2}}$$

$$\underline{\mathbb{L} = \left\{ \left(-\frac{1}{2}; \frac{1}{2}; 3 \right) \right\}}$$

$$\begin{array}{l} b) \quad 3x_1 - 4x_2 + x_3 = 4 \quad | \cdot 1 \\ \quad \quad 3x_1 + x_2 - 2x_3 = 1 \quad | \cdot (-1) \\ \quad \quad \quad 3x_3 = 6 \\ \hline \end{array}$$

$$\begin{array}{l} 3x_1 - 4x_2 + x_3 = 4 \\ \quad \quad -5x_2 + 3x_3 = 3 \\ \quad \quad \quad 3x_3 = 6 \\ \hline \end{array}$$

$$\underline{x_3 = 2}$$

$$-5x_2 + 3 \cdot 2 = 3 \Rightarrow -5x_2 = 3 - 6 \Rightarrow \underline{x_2 = \frac{3}{5}}$$

$$3 \cdot x_1 - 4 \cdot \frac{3}{5} + 2 = 4 \Rightarrow 3x_1 = \frac{12}{5} - 2 + 4 \Rightarrow \underline{x_1 = \frac{22}{15}}$$

$$\underline{\mathbb{L} = \left\{ \left(\frac{22}{15}; \frac{3}{5}; 2 \right) \right\}}$$