

S 214 Nr. 1a

$$2x_1 - 3x_2 - 5x_3 = -1$$

$$2x_2 + x_3 = 0$$

$$3x_3 = 6 \quad | :3$$

$$\underline{x_3 = 2}$$

$$2x_2 + 2 = 0 \Rightarrow \underline{x_2 = -1}$$

$$2x_1 - 3 \cdot (-1) - 5 \cdot 2 = -1 \Rightarrow 2x_1 + 3 - 10 = -1 \Rightarrow \underline{x_1 = 3}$$

$$\underline{\mathcal{L} = \{(3; -1; 2)\}}$$

Nr. 1b $3x_1 + 8x_2 - 3x_3 = 5$

$$4x_2 + x_3 = 1$$

$$\underline{-5x_3 = 10}$$

$$\underline{x_3 = -2}$$

$$4x_2 - 2 = 1 \Rightarrow \underline{x_2 = \frac{3}{4}}$$

$$3x_1 + 8 \cdot \frac{3}{4} - 3 \cdot (-2) = 5 \Rightarrow 3x_1 + 6 + 6 = 5 \Rightarrow \underline{x_1 = -\frac{7}{3}}$$

$$\underline{\mathcal{L} = \left\{ \left(-\frac{7}{3}; \frac{3}{4}; -2 \right) \right\}}$$

Nr. 1c $3x_1 + 4x_2 + 6x_3 = 5$

$$17x_2 + 24x_3 = 16$$

$$\underline{2x_3 = 7}$$

$$\underline{x_3 = \frac{7}{2}}$$

$$17x_2 + 24 \cdot \frac{7}{2} = 16 \Rightarrow 17x_2 = -68 \Rightarrow \underline{x_2 = -4}$$

$$3x_1 + 4 \cdot (-4) + 6 \cdot \frac{7}{2} = 5 \Rightarrow 3x_1 = 0 \Rightarrow \underline{x_1 = 0}$$

$$\underline{\mathcal{L} = \left\{ \left(0; -4; \frac{7}{2} \right) \right\}}$$