

S 214 Nr. 9

$$\begin{array}{l}
 \text{a)} \quad x_1 = 1 \\
 \quad \quad x_2 = 2 \\
 \quad \quad x_3 = 3
 \end{array}
 \left| \begin{array}{l}
 \text{I} + \text{II} + \text{III} \\
 \text{I} - \text{II} - \text{III} \\
 \text{I} - \text{II} + \text{III}
 \end{array} \right. \Rightarrow \begin{array}{l}
 x_1 + x_2 + x_3 = 6 \\
 x_1 - x_2 - x_3 = -4 \\
 x_1 - x_2 + x_3 = 2
 \end{array}$$

$$\begin{array}{l}
 \text{b)} \quad x_1 = -2 \\
 \quad \quad x_2 = 5 \\
 \quad \quad x_3 = 1
 \end{array}
 \left| \begin{array}{l}
 \text{I} + \text{II} + \text{III} \\
 \text{I} + 2\text{II} - \text{III} \\
 \text{I} + 2\text{II} + 2\text{III}
 \end{array} \right. \Rightarrow \begin{array}{l}
 x_1 + x_2 + x_3 = 4 \\
 x_1 + 2x_2 - x_3 = 7 \\
 x_1 + 2x_2 + 2x_3 = 10
 \end{array}$$

$$\begin{array}{l}
 \text{c)} \quad x_1 = 1 \\
 \quad \quad x_2 = 1 \\
 \quad \quad x_3 = 1
 \end{array}
 \left| \begin{array}{l}
 \\
 \text{siehe a)} \\
 \\
 \end{array} \right. \begin{array}{l}
 x_1 + x_2 + x_3 = 3 \\
 x_1 - x_2 - x_3 = -1 \\
 x_1 - x_2 + x_3 = 1
 \end{array}$$

$$\begin{array}{l}
 \text{d)} \quad x_1 = 0 \\
 \quad \quad x_2 = 3 \\
 \quad \quad x_3 = 6
 \end{array}
 \left| \begin{array}{l}
 \\
 \text{siehe a)} \\
 \\
 \end{array} \right. \begin{array}{l}
 x_1 + x_2 + x_3 = 9 \\
 x_1 - x_2 - x_3 = -9 \\
 x_1 - x_2 + x_3 = +3
 \end{array}$$

S 214 Nr. 10

$$\begin{array}{l}
 \text{a)} \quad 4x_1 - 3x_2 + 6x_3 = 0 \\
 \quad \quad 2x_1 \quad \quad - x_3 = 5 \\
 \quad \quad 4x_1 \quad \quad \quad = -2
 \end{array}
 \quad \begin{array}{l}
 \text{Dieses LGS hat bereits} \\
 \text{Dreiecksform}
 \end{array}$$

$$\underline{\underline{x_1}} = -\frac{2}{4} = -\frac{1}{2}$$

$$2 \cdot \left(-\frac{1}{2}\right) - x_3 = 5 \Rightarrow -x_3 = 5 + 1 \Rightarrow \underline{\underline{x_3 = -6}}$$

$$4 \cdot \left(-\frac{1}{2}\right) - 3x_2 + 6 \cdot (-6) = 0 \Rightarrow -3x_2 = 2 + 36 \Rightarrow \underline{\underline{x_2 = -\frac{38}{3}}}$$

$$\underline{\underline{L = \left\{ \left(-\frac{1}{2}; -\frac{38}{3}; -6\right) \right\}}}$$