S 214 Nr. 9

a) $x_1 = 1$ | $I + II + III \Rightarrow x_1 + x_2 + x_3 = 6$

$x_2 = 2$ | $I - II - III \Rightarrow x_1 - x_2 - x_3 = -4$

$x_3 = 3$ | $I - II + III \Rightarrow x_1 - x_2 + x_3 = 2$

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b) $x_1 = -2$ | $I + II + III \Rightarrow x_1 + x_2 + x_3 = 4$

$x_2 = 5$ | $I + 2II - III \Rightarrow x_1 + 2x_2 - x_3 = 7$

$x_3 = 1$ | $I + 2II + 2III \Rightarrow x_1 + 2x_2 + 2x_3 = 10$

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c) $x_1 = 1$

$x_2 = 1$ | siehe a)

$x_3 = 1$

$x_1 + x_2 + x_3 = 3$

$x_1 - x_2 - x_3 = -1$

$x_1 - x_2 + x_3 = 1$

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d) $x_1 = 0$

$x_2 = 3$ | siehe a)

$x_3 = 6$

$x_1 + x_2 + x_3 = 9$

$x_1 - x_2 - x_3 = -9$

$x_1 - x_2 + x_3 = +3$

S 214 Nr. 10

a) $4x_1 - 3x_2 + 6x_3 = 0$

$2x_1 - x_3 = 5$

$4x_1 = -2$

Dieses LGS hat bereits Dreiecksform

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

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

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

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