

2.3 Übungsaufgaben

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| 1. | $\begin{array}{rcl} 3x & + & 4y = 32 \\ 3x & + & 7y = 47 \end{array}$ | $L = \{(4;5)\}$ |
| 2. | $\begin{array}{rcl} 4x & + & 7y = 21 \\ 3x & - & 4y = 25 \end{array}$ | $L = \{(7;-1)\}$ |
| 3. | $\begin{array}{rcl} 3x & - & 17y = 18 \\ -11x & + & 8y = -66 \end{array}$ | $L = \{(6;0)\}$ |
| 4. | $\begin{array}{rcl} x_1 & + & x_2 + x_3 = 9 \\ -x_1 & + & x_2 + 3x_3 = 13 \\ -x_1 & - & 2x_2 + 2x_3 = 0 \end{array}$ | $L = \{(2;3;4)\}$ |
| 5. | $\begin{array}{rcl} x_1 & + & 4x_2 - 5x_3 = 21 \\ 2x_1 & + & 3x_2 + 4x_3 = -1 \\ x_1 & - & 6x_2 - 8x_3 = -3 \end{array}$ | $L = \{(-1;3;-2)\}$ |
| 6. | $\begin{array}{rcl} 5x_1 & + & x_2 - 4x_3 = 0 \\ 3x_1 & + & 2x_2 + 3x_3 = 110 \\ 2x_1 & - & 3x_2 + x_3 = 0 \end{array}$ | $L = \{(11;13;17)\}$ |
| 7. | $\begin{array}{rcl} -3x_1 & - & x_2 - 2x_3 = -40 \\ 2x_1 & + & 3x_2 + x_3 = 42 \\ x_1 & + & 2x_2 + 3x_3 = 32 \end{array}$ | $L = \{(9;7;3)\}$ |

8. Ergänzen Sie die Rechenoperationen

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| 1) $\left(\begin{array}{ccc c} 1 & -2 & 1 & 0 \\ 7 & 6 & 7 & 100 \\ 3 & 1 & -2 & 0 \end{array} \right)$ | 4) $\left(\begin{array}{ccc c} 1 & 0 & 1 & 10 \\ 0 & 1 & 0 & 5 \\ 0 & 0 & -5 & 35 \end{array} \right)$ |
| 2) $\left(\begin{array}{ccc c} 1 & -2 & 1 & 0 \\ 0 & 20 & 0 & 100 \\ 0 & 7 & -5 & 0 \end{array} \right)$ | 5) $\left(\begin{array}{ccc c} 1 & 0 & 1 & 10 \\ 0 & 1 & 0 & 5 \\ 0 & 0 & 1 & 7 \end{array} \right)$ |
| 3) $\left(\begin{array}{ccc c} 1 & -2 & 1 & 0 \\ 0 & 1 & 0 & 5 \\ 0 & 7 & -5 & 0 \end{array} \right)$ | 6) $\left(\begin{array}{ccc c} 1 & 0 & 0 & 3 \\ 0 & 1 & 0 & 5 \\ 0 & 0 & 1 & 7 \end{array} \right)$ $L = \{(3;5;7)\}$ |