

Gaußverfahren (Matrix)

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$$\begin{cases} 2x + y + z = 4 \\ 3x - y + 2z = 1 \\ 4x + 7y - 2z = 3 \end{cases} \longrightarrow \begin{pmatrix} 2 & 1 & 1 & 4 \\ 3 & -1 & 2 & 1 \\ 4 & 7 & -2 & 3 \end{pmatrix} \begin{array}{l} | \cdot (-3) \\ | \cdot 2 \end{array} \left. \begin{array}{l} \text{Matrix} \\ + \end{array} \right\}$$

$$\begin{pmatrix} 2 & 1 & 1 & 4 \\ 0 & -5 & 1 & -10 \\ 4 & 7 & -2 & 3 \end{pmatrix} \begin{array}{l} | \cdot (-2) \\ + \end{array}$$

$$\begin{pmatrix} 2 & 1 & 1 & 4 \\ 0 & -5 & 1 & -10 \\ 0 & 5 & -4 & -5 \end{pmatrix} \left. \begin{array}{l} + \end{array} \right\}$$

$$\begin{cases} 2x + y + z = 4 \\ -5y + z = -10 \\ -3z = -15 \end{cases} \longleftarrow \begin{pmatrix} 2 & 1 & 1 & 4 \\ 0 & -5 & 1 & -10 \\ 0 & 0 & -3 & -15 \end{pmatrix}$$