Beispiel für den Gauß-Algorithmus

$$
\begin{pmatrix}
0 & 0 & 2 & 0 & -4 & 4 & | & 4 \\
0 & 3 & 1 & -1 & -2 & 3 & | & 1 \\
0 & 3 & 0 & -1 & 0 & 4 & | & 5 \\
0 & 6 & 1 & -2 & -2 & 5 & | & 2
\end{pmatrix}
$$

$$
\rightsquigarrow
\begin{pmatrix}
0 & 3 & 1 & -1 & -2 & 3 & | & 1 \\
0 & 0 & 2 & 0 & -4 & 4 & | & 4 \\
0 & 3 & 0 & -1 & 0 & 4 & | & 5 \\
0 & 6 & 1 & -2 & -2 & 5 & | & 2
\end{pmatrix}
\quad | \cdot (-1) \quad | \cdot (-2)
$$

$$
\rightsquigarrow
\begin{pmatrix}
0 & 3 & 1 & -1 & -2 & 3 & | & 1 \\
0 & 0 & 2 & 0 & -4 & 4 & | & 4 \\
0 & 0 & -1 & 0 & 2 & 1 & | & 4 \\
0 & 0 & -1 & 0 & 2 & -1 & | & 0
\end{pmatrix}
$$

$$
\rightsquigarrow
\begin{pmatrix}
0 & 3 & 1 & -1 & -2 & 3 & | & 1 \\
0 & 0 & -1 & 0 & 2 & -1 & | & 0 \\
0 & 0 & -1 & 0 & 2 & 1 & | & 4 \\
0 & 0 & 2 & 0 & -4 & 4 & | & 4
\end{pmatrix}
\quad | \cdot (-1) \quad | \cdot 2
$$

$$
\rightsquigarrow
\begin{pmatrix}
0 & 3 & 1 & -1 & -2 & 3 & | & 1 \\
0 & 0 & -1 & 0 & 2 & -1 & | & 0 \\
0 & 0 & 0 & 0 & 0 & 2 & | & 4 \\
0 & 0 & 0 & 0 & 0 & 2 & | & 4
\end{pmatrix}
\quad | \cdot (-1)
$$

$$
\rightsquigarrow
\begin{pmatrix}
0 & 3 & 1 & -1 & -2 & 3 & | & 1 \\
0 & 0 & -1 & 0 & 2 & -1 & | & 0 \\
0 & 0 & 0 & 0 & 0 & 2 & | & 4 \\
0 & 0 & 0 & 0 & 0 & 0 & | & 0
\end{pmatrix}
\quad | \cdot (-1)
$$

$$
\rightsquigarrow
\begin{pmatrix}
0 & 3 & 0 & -1 & 0 & 2 & | & 1 \\
0 & 0 & 1 & 0 & -2 & 1 & | & 0 \\
0 & 0 & 0 & 0 & 0 & 2 & | & 4 \\
0 & 0 & 0 & 0 & 0 & 0 & | & 0
\end{pmatrix}
$$