

also hat die Matrix $A = \begin{pmatrix} 3 & 1 \\ 5 & -6 \end{pmatrix}$ die

$$\text{inverse } A^{-1} = \begin{pmatrix} \frac{6}{23} & \frac{1}{23} \\ \frac{5}{23} & \frac{-3}{23} \end{pmatrix}$$

weiteres Beispiel:

$$A = \begin{pmatrix} 2 & 0 & 1 \\ 0 & 1 & 1 \\ 0 & 1 & 0 \end{pmatrix}$$

$$\begin{array}{ccc|ccc} 2 & 0 & 1 & 1 & 0 & 0 \\ 0 & 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 & 1 \\ \hline 2 & 0 & 1 & 1 & 0 & 0 & \text{I} \\ 0 & 0 & 1 & 0 & 1 & -1 & \text{II} - \text{III} \\ 0 & 1 & 0 & 0 & 0 & 1 & \text{III} \\ \hline 2 & 0 & 0 & 1 & -1 & 1 & \text{I} - \text{II} \\ 0 & 0 & 1 & 0 & 1 & -1 & \text{II} \\ 0 & 1 & 0 & 0 & 0 & 1 & \text{III} \\ \hline 1 & 0 & 0 & \frac{1}{2} & -\frac{1}{2} & 1 & \text{I} \cdot 2 \\ 0 & 1 & 0 & 0 & 0 & -1 & \\ 0 & 0 & 1 & 0 & 1 & -1 & \end{array}$$

$$A^{-1} = \begin{pmatrix} \frac{1}{2} & -\frac{1}{2} & 1 \\ 0 & 0 & -1 \\ 0 & 1 & -1 \end{pmatrix}$$