$$A = \begin{pmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{pmatrix}, \qquad B = \begin{pmatrix} b_{11} & b_{12} \\ b_{21} & b_{22} \end{pmatrix}$$

1.) Standardverfahren:

$$C = A \cdot B = \begin{pmatrix} a_{11}b_{11} + a_{12}b_{21} & a_{11}b_{12} + a_{12}b_{22} \\ a_{21}b_{11} + a_{22}b_{21} & a_{21}b_{12} + a_{22}b_{22} \end{pmatrix}$$

8 Multiplikationen, 4 Additionen

2.) Verfahren von Strassen

$$C = \begin{pmatrix} m_2 + m_3 & m_1 + m_2 + m_5 + m_6 \\ m_1 + m_2 + m_4 - m_7 & m_1 + m_2 + m_4 + m_5 \end{pmatrix}$$

wobei

$$\begin{aligned} m_1 &= (a_{21} + a_{22} - a_{11})(b_{22} - b_{12} + b_{11}) \\ m_2 &= a_{11}b_{11} \\ m_3 &= a_{12}b_{21} \\ m_4 &= (a_{11} - a_{21})(b_{22} - b_{12}) \\ m_5 &= (a_{21} + a_{22})(b_{12} - b_{11}) \\ m_6 &= (a_{12} - a_{21} + a_{11} - a_{22})b_{22} \\ m_7 &= a_{22}(b_{11} + b_{22} - b_{12} - b_{21}) \end{aligned}$$

7 Multiplikationen, 15 Additionen*)

*) bei Speicherung von Zwischenergebnissen