Aufgabe 1

 $\begin{pmatrix} 23 \\ 9 \end{pmatrix}$

$$\left(\begin{array}{c} 27 \\ 5 \end{array}\right) \cdot \left(\begin{array}{c} 22 \\ 9 \end{array}\right) \cdot \left(\begin{array}{c} 13 \\ 6 \end{array}\right)$$

$$\begin{pmatrix}
31+7-1 \\
31
\end{pmatrix}$$

$$\left(\begin{array}{c} 31-1\\7-1 \end{array}\right)$$

$$\mathbf{e}$$

$$\left(\begin{array}{c} 32 \\ 4 \end{array}\right) \cdot \left(\begin{array}{c} 28 \\ 4 \end{array}\right) \cdot \left(\begin{array}{c} 24 \\ 4 \end{array}\right) \cdot \left(\begin{array}{c} 20 \\ 4 \end{array}\right) \cdot \left(\begin{array}{c} 16 \\ 4 \end{array}\right) \cdot \left(\begin{array}{c} 12 \\ 4 \end{array}\right) \cdot \left(\begin{array}{c} 8 \\ 4 \end{array}\right) \cdot \frac{1}{8!} = \frac{32!}{4!^8 \cdot 8!}$$

\mathbf{f}

$$\begin{pmatrix} 24 \\ 3 \end{pmatrix} \cdot \begin{pmatrix} 21 \\ 3 \end{pmatrix} \cdot \begin{pmatrix} 18 \\ 3 \end{pmatrix} \cdot \begin{pmatrix} 15 \\ 3 \end{pmatrix} \cdot \begin{pmatrix} 12 \\ 3 \end{pmatrix} \cdot \begin{pmatrix} 9 \\ 3 \end{pmatrix} \cdot \begin{pmatrix} 6 \\ 3 \end{pmatrix} \cdot \frac{1}{8!} = \frac{24!}{3!^8 \cdot 8!}$$