

$$\begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ a_{00} & a_{01} & a_{02} & a_{03} & a_{04} & a_{05} \\ a_{10} & a_{11} & a_{12} & a_{13} & a_{14} & a_{15} \\ a_{20} & a_{21} & a_{22} & a_{23} & a_{24} & a_{25} \end{bmatrix} * \begin{bmatrix} d_0 \\ d_1 \\ d_2 \\ d_3 \\ d_4 \\ d_5 \end{bmatrix} = \begin{bmatrix} d_0 \\ d_1 \\ d_2 \\ d_3 \\ d_4 \\ d_5 \\ c_0 \\ c_1 \\ c_2 \end{bmatrix}$$

$$\begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ a_{00} & a_{01} & a_{02} & a_{03} & a_{04} & a_{05} \\ a_{10} & a_{11} & a_{12} & a_{13} & a_{14} & a_{15} \\ a_{20} & a_{21} & a_{22} & a_{23} & a_{24} & a_{25} \end{bmatrix} * \begin{bmatrix} d_0 \\ d_1 \\ d_{2?} \\ d_{3?} \\ d_{4?} \\ d_5 \end{bmatrix} = \begin{bmatrix} d_0 \\ d_1 \\ d_5 \\ c_0 \\ c_1 \\ c_2 \end{bmatrix}$$

$$\begin{bmatrix} d_0 \\ d_1 \\ d_{2?} \\ d_{3?} \\ d_{4?} \\ d_5 \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ a_{00} & a_{01} & a_{02} & a_{03} & a_{04} & a_{05} \\ a_{10} & a_{11} & a_{12} & a_{13} & a_{14} & a_{15} \\ a_{20} & a_{21} & a_{22} & a_{23} & a_{24} & a_{25} \end{bmatrix}^{-1} * \begin{bmatrix} d_0 \\ d_1 \\ d_5 \\ c_0 \\ c_1 \\ c_2 \end{bmatrix}$$

$$\begin{bmatrix} 1 & a_1 & a_1^2 & a_1^3 & a_1^4 & a_1^5 \\ 1 & a_2 & a_2^2 & a_2^3 & a_2^4 & a_2^5 \\ 1 & a_3 & a_3^2 & a_3^3 & a_3^4 & a_3^5 \\ 1 & a_4 & a_4^2 & a_4^3 & a_4^4 & a_4^5 \\ 1 & a_5 & a_5^2 & a_5^3 & a_5^4 & a_5^5 \\ 1 & a_6 & a_6^2 & a_6^3 & a_6^4 & a_6^5 \end{bmatrix}$$

$$\prod_{1\leq i < j < n} (a_j - a_i)$$

$$\begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 1 & 1 & 1 & 1 & 1 & 1 \\ 1 & 2 & 4 & 8 & 16 & 32 \\ 1 & 3 & 9 & 27 & 81 & 243 \end{bmatrix}$$

$$\left[\begin{array}{cccccc|cccccc} 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 0 & 0 & 0 \\ 1 & 1 & 1 & 1 & 1 & 1 & 0 & 0 & 0 & 1 & 0 & 0 \\ 1 & 2 & 4 & 8 & 16 & 32 & 0 & 0 & 0 & 0 & 1 & 0 \\ 1 & 3 & 9 & 27 & 81 & 243 & 0 & 0 & 0 & 0 & 0 & 1 \end{array} \right]$$

 *Step 1,2*

$$\left[\begin{array}{cccccc|cccccc} 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 0 & 0 & 0 \\ 1 & 1 & 1 & 1 & 1 & 1 & 0 & 0 & 0 & 1 & 0 & 0 \\ 1 & 2 & 4 & 8 & 16 & 32 & 0 & 0 & 0 & 0 & 1 & 0 \\ 1 & 3 & 9 & 27 & 81 & 243 & 0 & 0 & 0 & 0 & 0 & 1 \end{array} \right]$$

 *Step 3*

$$\left[\begin{array}{cccccc|cccccc} 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 1 & 1 & 1 & -1 & 0 & 0 & 1 & 0 & 0 \\ 0 & 2 & 4 & 8 & 16 & 32 & -1 & 0 & 0 & 0 & 1 & 0 \\ 0 & 3 & 9 & 27 & 81 & 243 & -1 & 0 & 0 & 0 & 0 & 1 \end{array} \right]$$