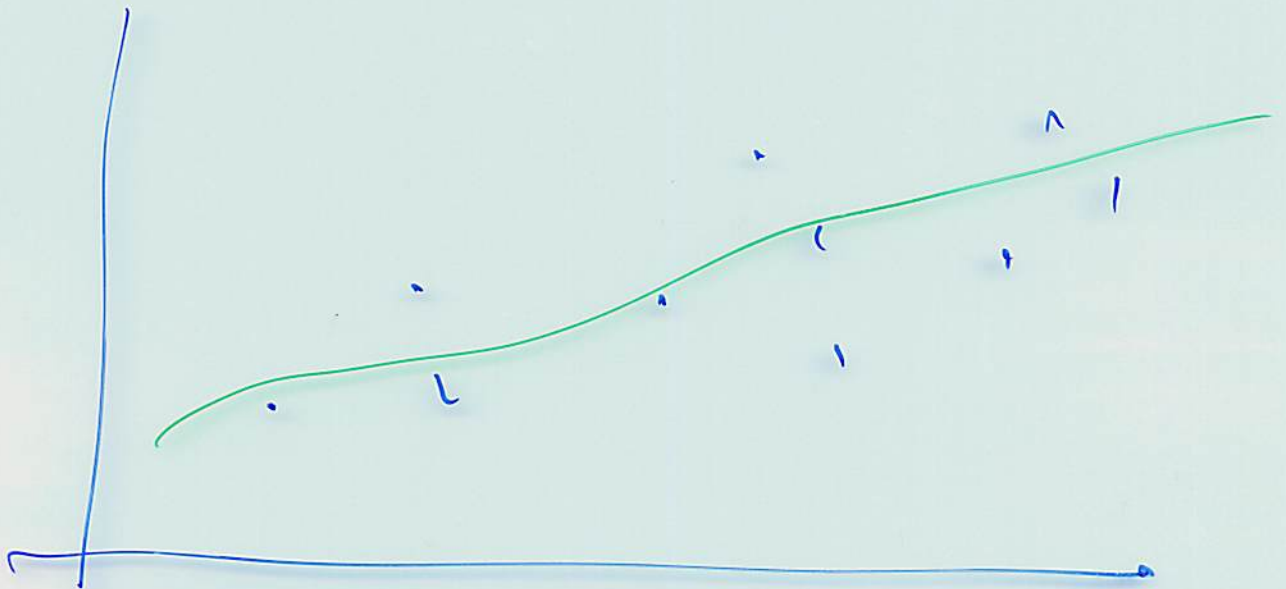


(x_0, f_0)
 (x_1, f_1)



$$p(x) = a_0 + a_1 x$$

$$\begin{cases} a_0 + a_1 x_0 = f_0 \\ a_0 + a_1 x_1 = f_1 \end{cases}$$

$$\begin{pmatrix} 1 & x_0 \\ 1 & x_1 \end{pmatrix} \begin{pmatrix} a_0 \\ a_1 \end{pmatrix} = \begin{pmatrix} f_0 \\ f_1 \end{pmatrix}$$

$$\begin{pmatrix} a_0 \\ a_1 \end{pmatrix} = V^{-1} \begin{pmatrix} f_0 \\ f_1 \end{pmatrix} =$$

$$= \frac{1}{\det V} \begin{pmatrix} x_1 & -x_0 \\ -1 & 1 \end{pmatrix} \begin{pmatrix} f_0 \\ f_1 \end{pmatrix}$$

Lagrange

$$l_0(x) = \frac{x - x_1}{x_0 - x_1}$$

$$l_1(x) = \frac{x - x_0}{x_1 - x_0}$$

$$p_1(x) = f_0 l_0(x) + f_1 l_1(x)$$

$$p_1(x_0) = f_0 \cdot 1 + f_1 \cdot 0$$

$$p_1(x_1) = f_0 \cdot 0 + f_1 \cdot 1$$

$$p_3(x) = a_0 + a_1x + a_2x^2 + a_3x^3$$

4V0 (3)

6 Multi.
3 Add.

9

$$p_3(x) = a_0 + x(a_1 + x(a_2 + xa_3))$$

3 Multi.

3 Add.

6

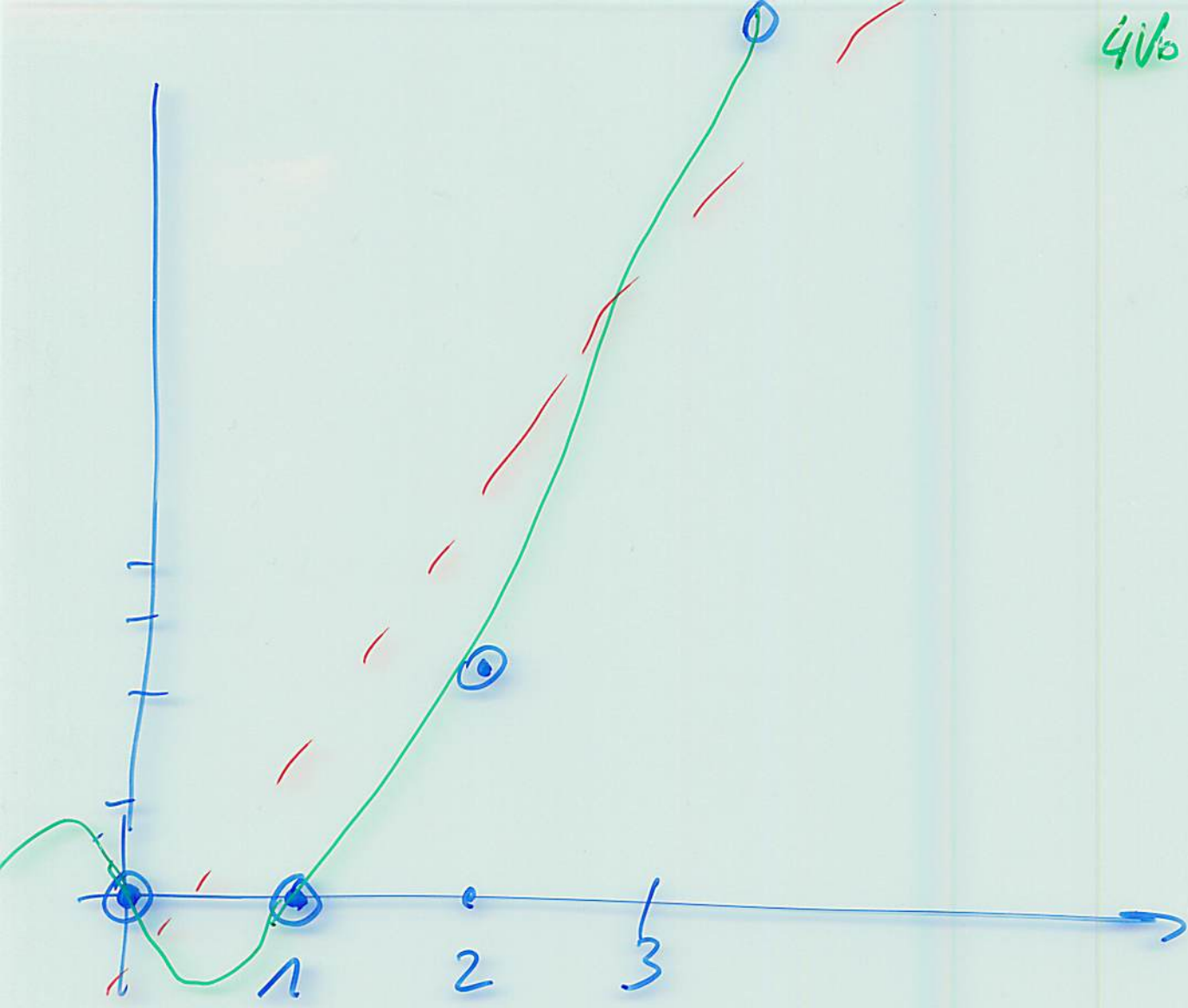
$$p_1(x) = c_0 + c_1(x-x_0)$$

$$p_1(x_0) = c_0 = \underline{f_0}$$

$$p_1(x_1) = c_0 + c_1(x_1 - x_0) = \underline{f_1}$$

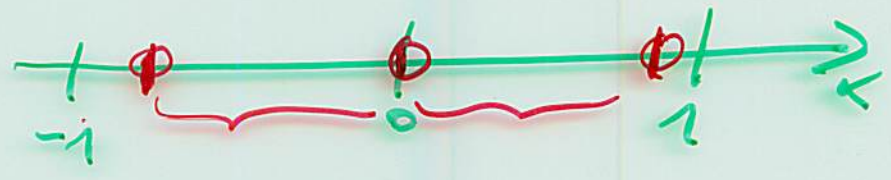
$$c_1 = \frac{f_1 - c_0}{x_1 - x_0} = \frac{f_1 - f_0}{x_1 - x_0}$$

$$p_1(x) = f_0 + \frac{f_1 - f_0}{x_1 - x_0} (x - x_0)$$



$$x_j = \cos\left(\frac{2j+1}{2n+2} \pi\right) \quad j=0, 1, \dots, n$$

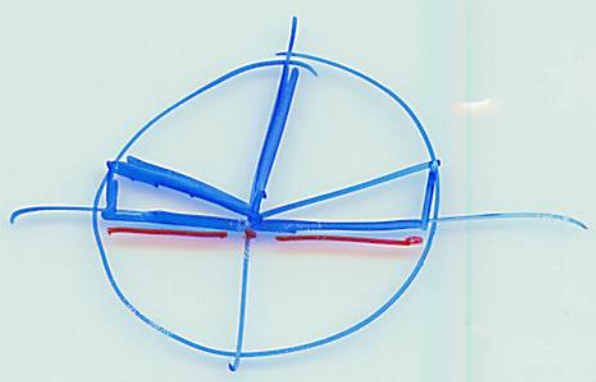
n=2



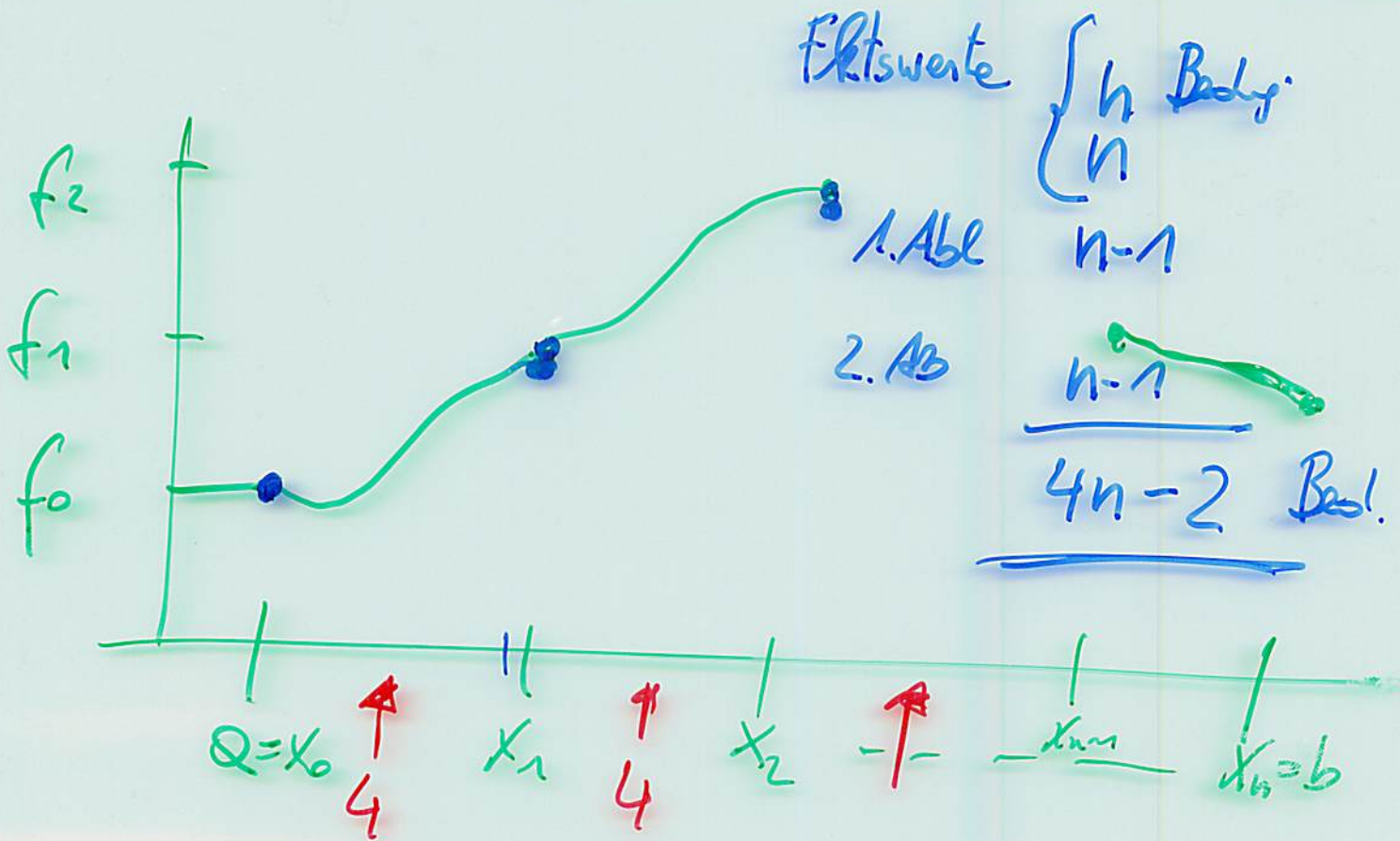
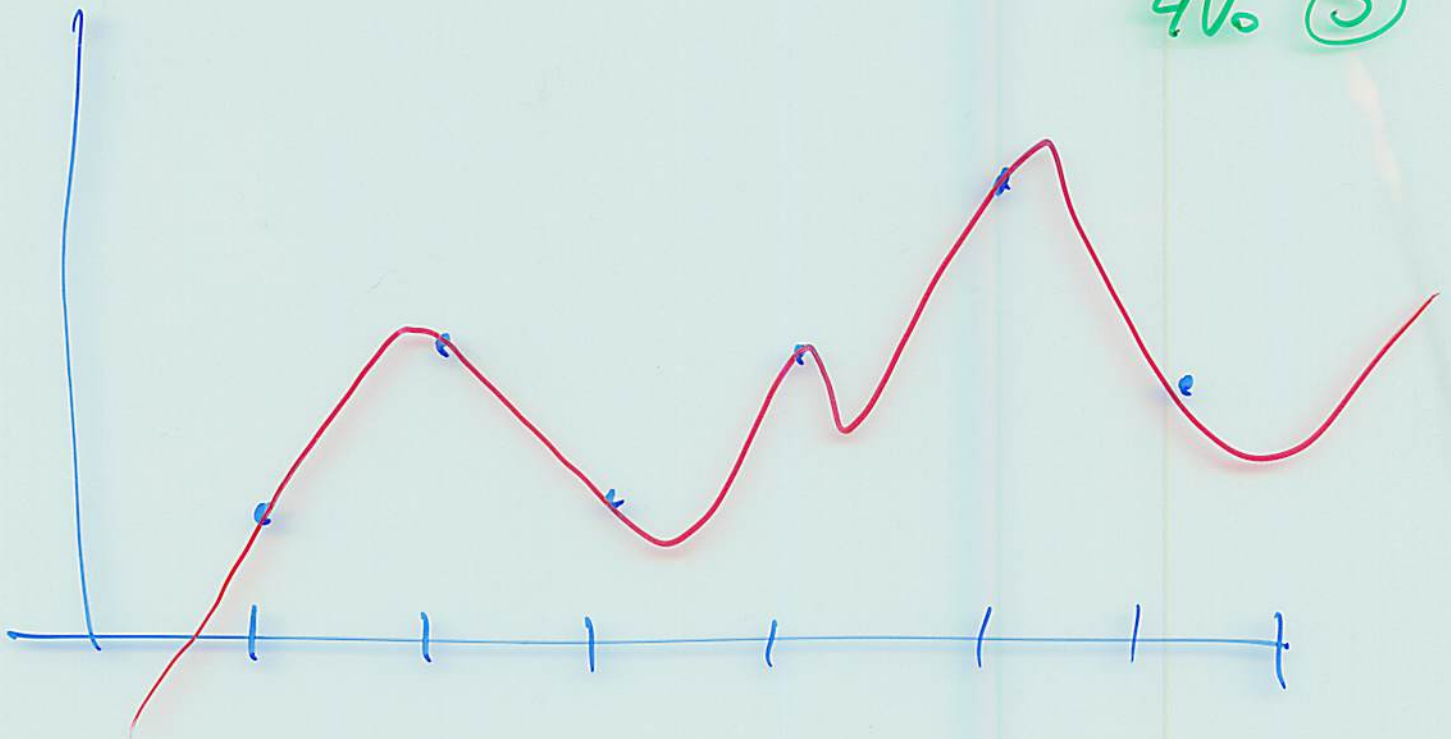
$$x_0 = \cos\left(\frac{1}{6} \pi\right)$$

$$x_1 = \cos\left(\frac{3}{6} \pi\right)$$

$$x_2 = \cos\left(\frac{5}{6} \pi\right)$$



4V6 (5)



$4n$ Unklar
 (a, b, c, d)