

$$f(x) = x^5 - x^2, x_0 = 1$$

Es ist also $n = 5, a_0 = 1, a_1 = a_2 = a_4 = a_5 = 0$ und $a_3 = -1$, also

$$A_0 = a_0 = 1$$

$$A_1 = 1 \cdot 1 + a_1 = 1$$

$$A_2 = 1 \cdot 1 + a_2 = 1$$

$$A_3 = 1 \cdot 1 + a_3 = 0$$

$$A_4 = 0 \cdot 1 + a_4 = 0$$

$$A_5 = A_n = f(1) = 0 \cdot 0 + a_5 = 0. \text{ Nun ist aber nach (3)}$$

$$f(x) = f(1) + (x - 1) (1 \cdot x^4 + 1 \cdot x^3 + 1 \cdot x^2 + 0 \cdot x^1 + 0)$$

$= (x - 1) (x^4 + x^3 + x^2)$. Man berechnet die A_i auch in folgendem Schema:

$$x_0 = 1 \left| \begin{array}{cccccc} a_0 = 1 & a_1 = 0 & a_2 = 0 & a_3 = -1 & a_4 = 0 & a_5 = 0 \\ A_0 = 1 & A_1 = 1 & A_2 = 1 & A_3 = 0 & A_4 = 0 & A_5 = 0 \end{array} \right| \text{oder k\u00fcrzer:}$$

$$x_0 = 1 \left| \begin{array}{cccccc} 1 & 0 & 0 & -1 & 0 & 0 \\ 1 & 1 & 1 & 0 & 0 & 0 \end{array} \right| \Rightarrow \frac{x^5 - x^2}{x - 1} = x^4 + x^3 + x^2$$