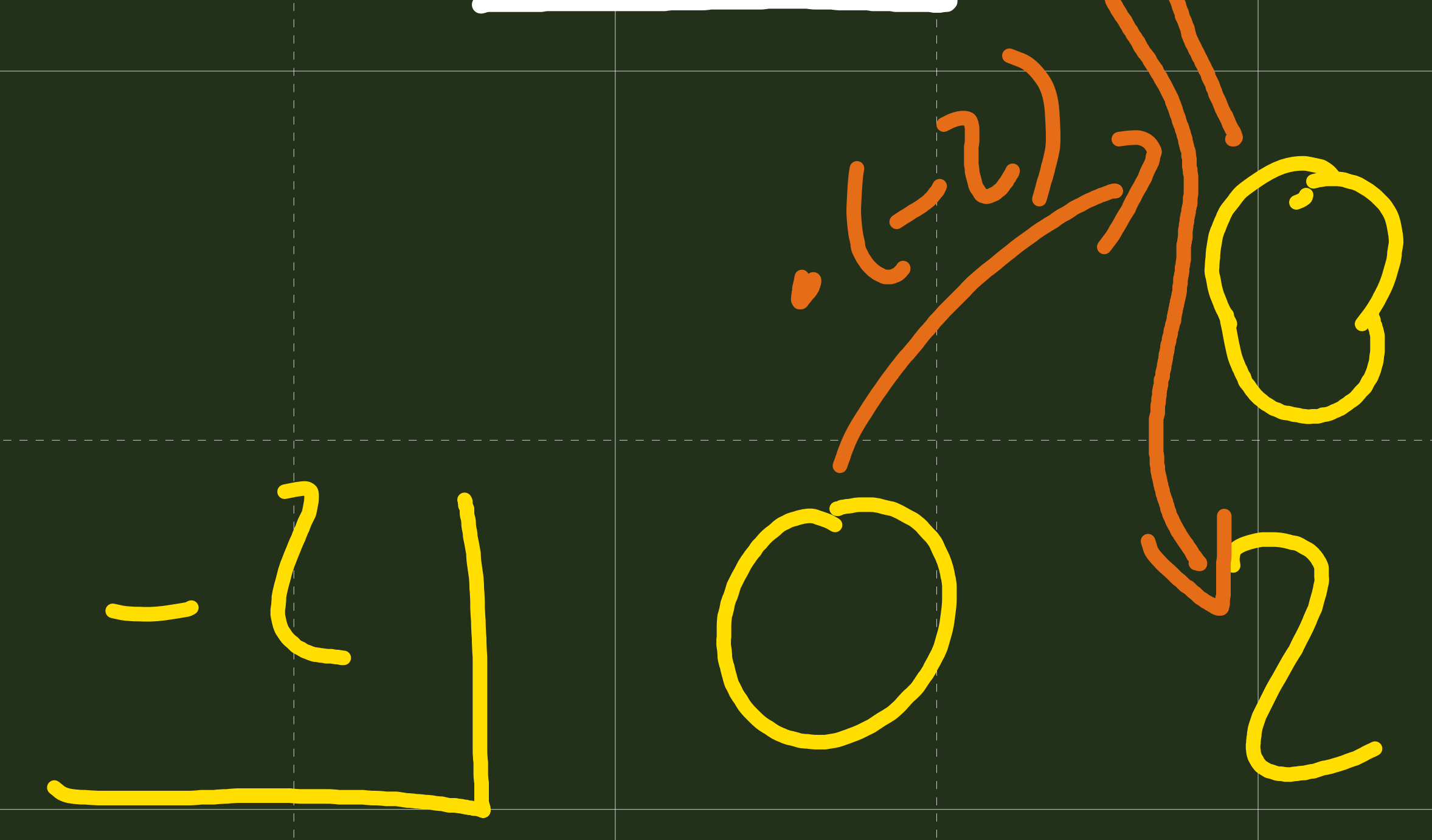
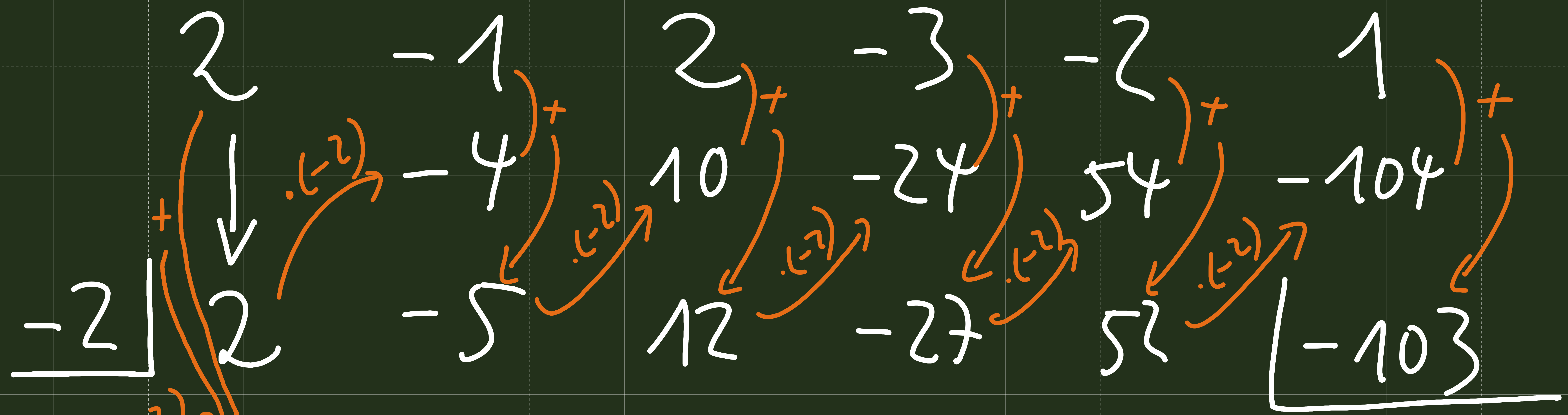


$$f(x) = 2x^5 - x^4 + 2x^3 - 3x^2 - 2x + 1$$

$$f(-2) = 2 \cdot (-2)^5 - (-2)^4 + 2 \cdot (-2)^3 - 3 \cdot (-2)^2 - 2 \cdot (-2) + 1$$

$$= -64 - 16 - 16 - 12 + 4 + 1 = -103$$

$$\begin{aligned}
f(x) &= 2x^5 - x^4 + 2x^3 - 3x^2 - 2x + 1 \\
&= (2x^4 - x^3 + 2x^2 - 3x - 2) \cdot x + 1 \\
&= ((2x^3 - x^2 + 2x - 3) \cdot x - 2) \cdot x + 1 \\
&= (((2x^2 - x + 2) \cdot x - 3) \cdot x - 2) \cdot x + 1 \\
&= (((2x - 1) \cdot x + 2) \cdot x - 3) \cdot x - 2) \cdot x + 1
\end{aligned}$$



Rest wie gehabt :-)

Sinnvolle Variante zum Programmieren

$$f(x) = -2x^4 + 3x^2 - x$$

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

$$f(x) = \underbrace{-2}_{-2} x^4 + \underbrace{0}_0 x^3 + \underbrace{3}_3 x^2 - \underbrace{1}_{-1} x + \underbrace{0}_0$$

$$\begin{array}{cccccc}
 & -2 & 0 & 3 & -1 & 0 \\
 & \downarrow & -2 & -2 & 1 & 0 \\
 \underline{1} & -2 & -2 & 1 & 0 & \underbrace{0} \quad \swarrow f(1)
 \end{array}$$

$$\begin{array}{cccccc}
 & -2 & 0 & 3 & -1 & 0 \\
 & \downarrow & 4 & -8 & 10 & -18 \\
 \underline{-2} & -2 & 4 & -5 & 9 & \underbrace{-18} \quad \swarrow f(-2)
 \end{array}$$

$$\begin{array}{r}
 -2 \\
 \downarrow \\
 -2
 \end{array}
 \begin{array}{r}
 3 \\
 4 \\
 7
 \end{array}
 \begin{array}{r}
 -1 \\
 -14 \\
 -15
 \end{array}$$

hier nicht
berechnet mit
der vorherigen
Funktion

Sondern: $f(x) = -2x^2 + 3x - 1$

$$\begin{aligned}
 f(-2) &= -2 \cdot (-2)^2 + 3 \cdot (-2) - 1 \\
 &= -8 - 6 - 1 = -15
 \end{aligned}$$