Aufgabe 4b

$y = ax^4 + bx^3 + cx^2 + dx + e$

Achsensymm.: $y = ax^4 + cx^2 + e \mid y' = 4ax^3 + 2c$

TP $(2, -7)$: $-7 = a \cdot 16 + c \cdot 4 + e$

HP bei $x = 1$

$y'(1) = 0 \quad 0 = 4a + 2c$

$y'(0.5) = 1.5 \quad 1.5 = 4a \cdot 0.5^3 + 2c \cdot 0.5$

$1.5 = 0.5a + c$

$16a + 4c + e = -7$

$4a + 2c = 0$

$0.5a + c = 1.5$

$y = -x^4 + 2x^2 + 1$

16	4	1	−7	I	
4	2	0	0	II	
0.5	1	0	1.5	III	$-\frac{1}{2} \times$ II

$$\left(\begin{array}{ccc|c} 16 & 4 & 1 & -7 \\ 4 & 2 & 0 & 0 \\ -1.5 & 0 & 0 & 1.5 \end{array}\right)$$

$-1.5a = 1.5$

$a = -1$

$-4 + 2c = 0$

$+4 = +2c$

$c = 2$

$-16 + 8 + e = -7$

$e = -7 - 8 + 16$

$= 1$