Übungen in Analysis ◇ Exercices en analyse ◇ T. I1 ◇ I / 16

Probl. 1 $f(x) = (x^x)^x \quad \rightsquigarrow \quad f'(x) = ?$

Probl. 2 $f(x) = x^{(x^x)} \quad \rightsquigarrow \quad f'(x) = ?$

Probl. 3 $f(x) = 1/2x - \cos(x) \quad \rightsquigarrow \quad Min. = ?, \;\; Max. = ?$

Probl. 4 $f(x) = x \cdot \sqrt{x} \quad \rightsquigarrow \quad f'(x) = 0 \;\Rightarrow\; x = ?, \;\; Min./\; Max.?$

Probl. 5 $f(x) = e^{-x^2} \rightsquigarrow \;\; f'(x) = 0, \;\; x = ?, \qquad f''(x) = 0, \;\; x = ?$
Graph von f? • *Graphique de f ?*

Probl. 6 $f(x) = 3x^3+4x^2-5x-5 \rightsquigarrow \;\; f'(x) = 0, \;\; x = ?, \qquad f''(x) = 0, \;\; x = ?$
Graph von f? • *Graphique de f ?*

Probl. 7 $f(x) = x^4 - x^2 - 1 \rightsquigarrow \;\; f'(x) = 0, \;\; x = ?, \qquad f''(x) = 0, \;\; x = ?$
Graph von f? • *Graphique de f ?*