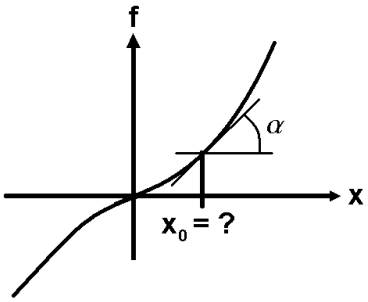
Übungen in Analysis ◇ Exercices en analyse ◇ T. I1 ◇ I / 14

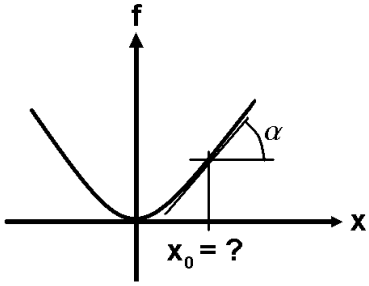
Probl. 1 $\alpha = 80^o \qquad f(x) = x^3$

$x_0 = ?$



Probl. 2 $f(x) = x^4$

$\alpha(x_0) = \alpha(1)$



Probl. 3 $f(x) = 3\,x^7 + 9\,x^4 + 2$ $\qquad f'(x) = ?$

Probl. 4 $f_1(x) = x^2, \;\; f_2(x) = a\,x^2 + b\,x + c$
$f_1(1) = f_2(1),$
$f_2(3) = 0, \;\; f_2(x) \geq 0$

Skizze? • *Esquisse?* Winkel zwischen den Tangenten an die beiden Kurven im Schnittpunkt? • *Angle entre les deux tangentes au point d'intersection des deux courbes?*

Probl. 5 $f(x) = x^2, \;\; f(x_0) = b, \;\; f'(x_0) = a$
$g(x) = a\,(x - x_0) + b \rightsquigarrow$ Tangente • *Tangente*
$g(x_1) = 0 \;\Rightarrow\; x_1$

$P_1 = P_1(x_1/0), \;\; P_2 = P_2(x_0/0)$
$P_3 = P_3(x_0/f(x_0)), \;\; P_4 = P_4(0/g(0))$
$P_5 = P_5(0/0)$

$\rightsquigarrow \;\; A(P_1P_2P_3) = ?, \;\; A(P_1P_4P_5) = ?$