Test in Analysis ◇ Examen en analyse ◇ Type B2 ◇ 2

Probl. 1 $p(x) = (x+1) \cdot (x-4) \cdot (x-5) = \ldots$

(a) $p'(x) = ?$

(b) Min./ Max. von $p(x) = ?$ • *Min./ Max. de* $p(x) = ?$

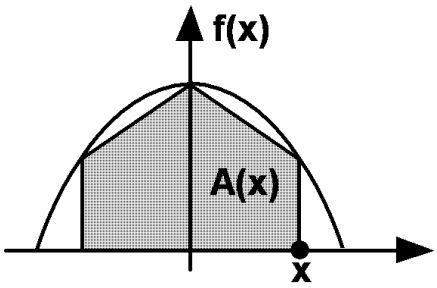
(c) $p''(x) := (p'(x))' = ?$

(d) Min./ Max. von $p'x) = ?$ • *Min./ Max. de* $p'(x) = ?$

(e) Skizze: • *Esquisse:* $p(x),\ p'(x),\ p''(x)$!

Probl. 2

$f(x) = -x^2 + 1$
$A(x) \rightarrow max. \rightsquigarrow\ x = ?$



Probl. 3 $f_1(x) = \cos^2(x),\ f_2(x) = \cos^3(x)$ $d(x) = |f_1(x) - f_2(x)|,$ $x \in [0, \frac{\pi}{2}]$ (Rad!)

$d(x) \rightarrow max. \rightsquigarrow\ x = ?$

Probl. 4

$f(x) = -x^2 + 1$
$A(x) \rightarrow max.$

$\rightsquigarrow\ \varphi = ?$ (Rad!)