D CSOPORT

(1) LÁSD 87. OLDAL

a) INFLEXIÓS PONT

b) LOKÁLIS MAX

c) $f(x) = x^9$, $x_0 = 0$

d) $f(x) = -x^8$, $x_0 = 0$

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(2) LÁSD C CSOPORT MEGOLDÁS

$1 = T = a \cdot m \Rightarrow \boxed{m = \frac{1}{a}} \Rightarrow$

$\Rightarrow K = K(a) = 2 \cdot \left(a + \sqrt{a^2 + \frac{1}{a^2}}\right)$

$\boxed{K'(a) = 0}: 2 \cdot \left(1 + \frac{1}{2} \cdot \frac{1}{\sqrt{a^2 + \frac{1}{a^2}}} \cdot \left(2a - 2 \cdot a^{-3}\right)\right) = 0$

$1 + \frac{a - a^{-3}}{\sqrt{a^2 + \frac{1}{a^2}}} = 0 \iff a^{-3} - a = \sqrt{a^2 + \frac{1}{a^2}} \iff$

$\iff a^{-6} - 2a^{-2} + a^2 = a^2 + a^{-2} \iff a^{-6} = 3a^{-2}$

$\iff a^{-4} = 3 \iff \boxed{a = 3^{-1/4} = \frac{1}{\sqrt[4]{3}}}$

$\boxed{m = \frac{1}{a} = \sqrt[4]{3}}$

1. OLDAL

(3) a) $f(x) = x^{1/4}$ $\quad f'(x) = \frac{1}{4} \cdot x^{-3/4}$

$$f''(x) = \frac{1}{4} \cdot \left(-\frac{3}{4}\right) \cdot x^{-7/4} = -\frac{3}{16} \cdot x^{-7/4}$$

$f(1) = 1$ $\quad f'(1) = \frac{1}{4}$ $\quad f''(1) = -\frac{3}{16}$

$$T_2(x) = 1 + \frac{1}{4} \cdot (x-1) + \frac{1}{2} \cdot \left(-\frac{3}{16}\right) \cdot (x-1)^2$$

b) LÁSD C CSOPORT MEGOLDÁS

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(4) LÁSD C CSOPORT MEGO.

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(5) LÁSD C CSOPORT MEGO.

2. OLDAL