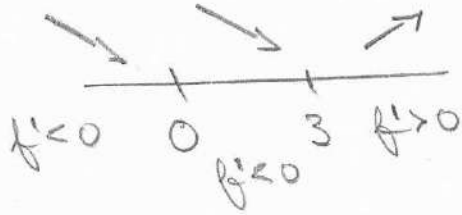
5. minulost

$f(x) = x^4 - 4x^3 = x^3(x-4)$

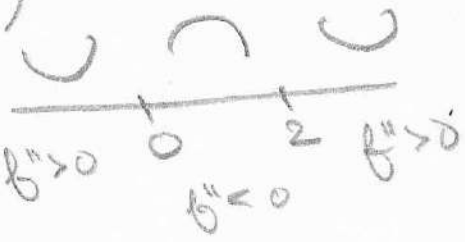
$f'(x) = 4x^3 - 12x^2 = 4x^2(x-3)$



$f(3) = 3^3 \cdot (3-4) = -27$

lok. min. $[3; -27]$

$f''(x) = 12x^2 - 24x = 12x(x-2)$



$f(0) = 0$

$f(2) = 2^3 \cdot (2-4) = -16$

· inflexní body $[0;0]$, $[2; -16]$

$\lim_{x \to \infty} f(x) = (\infty)^3 \cdot (\infty - 4) = +\infty$

$\lim_{x \to -\infty} f(x) = (-\infty)^3 \cdot (-\infty - 4) = +\infty$