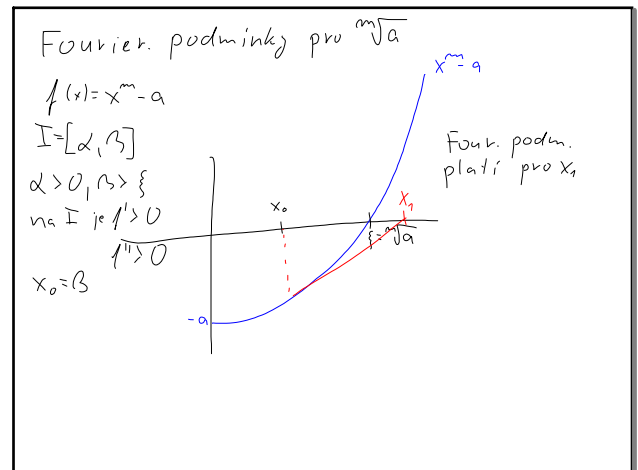


bře 8-7:59



bře 8-8:25

Newtonova metoda pro vícenás. kořen

$f(x) = x^2, \xi = 0$

$f'(x) = 2x$

$x_{k+1} = x_k - \frac{x_k^2}{2x_k} = x_k - \frac{x_k}{2} = \frac{x_k}{2}$

$x_k \rightarrow 0 = \xi$

$\frac{|e_{k+1}|}{|e_k|} = \frac{|x_{k+1}|}{|x_k|} = \frac{1}{2} \Rightarrow$ řád metody je 1

bře 8-8:33

Metoda sečen

Př: $\sqrt[3]{10} \quad f(x) = x^3 - 10$

$x_{k+1} = x_k - \frac{x_k - x_{k-1}}{x_k^3 - 10 - (x_{k-1}^3 - 10)} (x_k^3 - 10) =$

$= x_k - \frac{x_k - x_{k-1}}{x_k^3 - x_{k-1}^3} (x_k^3 - 10) = x_k - \frac{x_k - x_{k-1}}{(x_k - x_{k-1})(x_k^2 + x_k x_{k-1} + x_{k-1}^2)} (x_k^3 - 10) =$

$= x_k - \frac{x_k^3 - 10}{x_k^2 + x_k x_{k-1} + x_{k-1}^2}$

bře 8-9:03