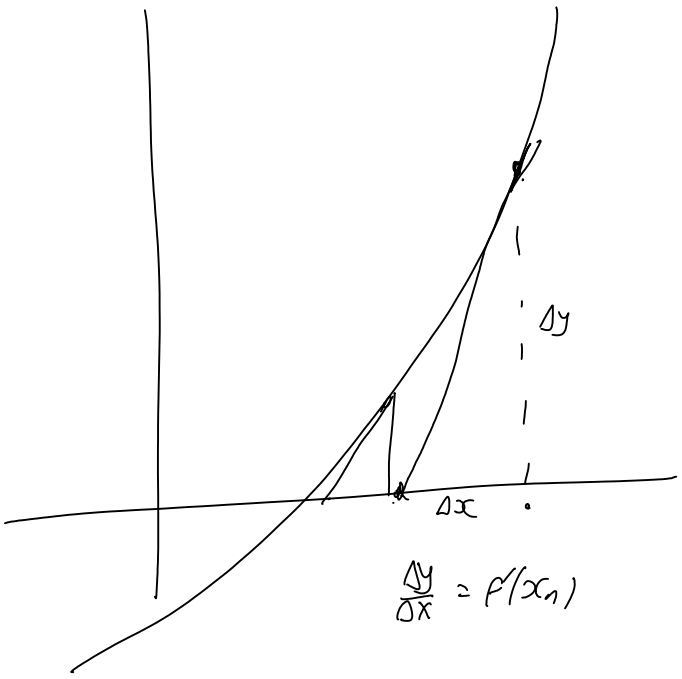
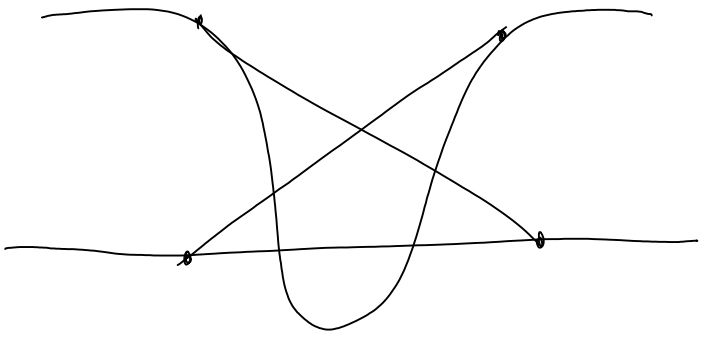
Newton's Method

September-10-09
5:00 PM



x_0 - guess

$$x_{n+1} = x_n - \frac{f(x_n)}{f'(x_n)}$$



$\log(2) = x$ $\qquad$ $e^x - 2 = 0$

$e^x - 2 = f(x)$

$$x_{n+1} = x_n - \frac{e^{x_n} - 2}{e^{x_n}} = x_n - 1 + \frac{2}{e^{x_n}}$$

$x_0 = 0.8$