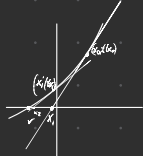




12



Derivat $\hat{=}$ Bin $\hat{=}$ \checkmark
 $f(x) = 0$
 $y - f(x_0) = f'(x_0)(x - x_0)$
 set $y = 0$
 $-f(x_0) = f'(x_0)(x - x_0)$
 $-f(x_0) = f'(x_0)x - f'(x_0)x_0 \quad | : f'(x_0)$
 $x = x_0 - \frac{f(x_0)}{f'(x_0)}$

Gamele eksamensoppgaver:

$$f(n) = \frac{2+n^2}{1+n^2}$$

$$\lim_{n \rightarrow \infty} \frac{2+n^2}{1+n^2} = \frac{1}{1} = 1$$

② $2 \sin 2\theta + \pi - 4\theta = 0$
 $f(\theta) = \frac{1}{2} \sin 4\theta + \frac{\pi}{4}$

import numpy as np

def f(x):
 return (1/2)*np.sin(2*x) + np.pi/4

x = 100

x_neste = 2

while abs(x - x_neste) > 10e-12:
 x = x_neste
 x_neste = f(x)

print(x_neste)