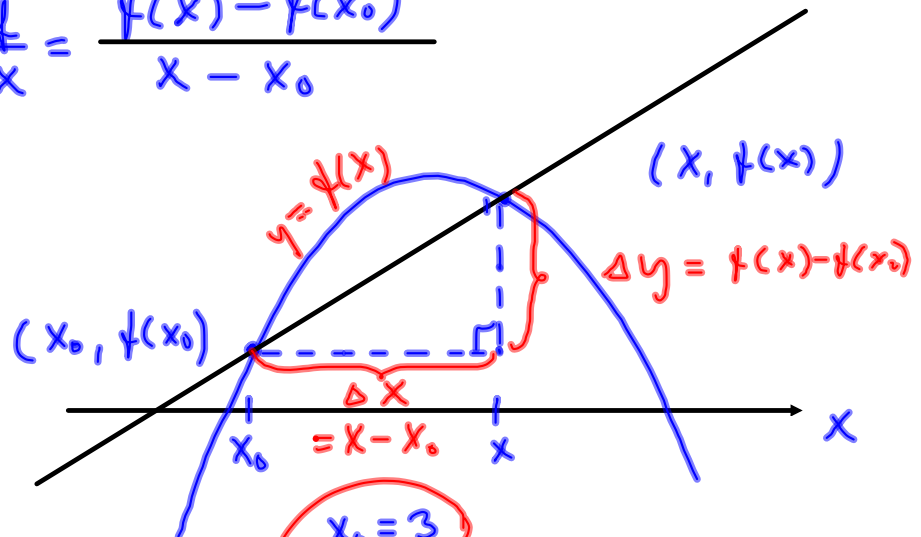


3 DERIVAATTA

1) Sekantin kulmakertoimen

Erotusonnäkö

$$\frac{\Delta y}{\Delta x} = \frac{\Delta f}{\Delta x} = \frac{f(x) - f(x_0)}{x - x_0}$$



esim
151a)

$$y = 4x - x^2 = f(x)$$

sekantin $k = ?$

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

$$f(3,1) = 4 \cdot 3,1 - 3,1^2 = 2,79$$

$$x_0 = 3$$

P

$$(3, 3)$$

$$Q$$
$$x = 3,1$$

$$(3,1; 2,79)$$

erotusonnäkö

$$\frac{f(x) - f(x_0)}{x - x_0} = \frac{2,79 - 3}{3,1 - 3} =$$

$$= -2,1 = k$$