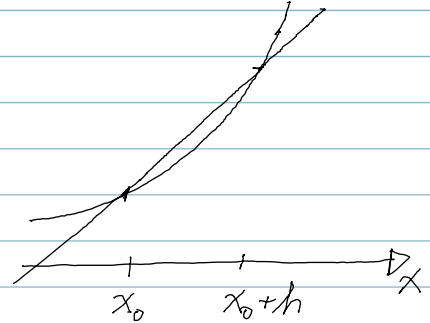
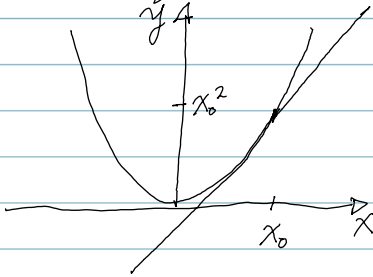


Öpppgave 2.1=11

Finn likningen till den rette linjen som
tangenter kurven $y=x^2$ i punktet $x=x_0$

Lösning:



$$m = \lim_{h \rightarrow 0} \frac{(x_0+h)^2 - x_0^2}{h}$$

$$= \lim_{h \rightarrow 0} \frac{x_0^2 + 2x_0h + h^2 - x_0^2}{h}$$

$$= \lim_{h \rightarrow 0} 2x_0 + h$$

$$= 2x_0$$

Likningen till tangentlinjen blir dermed

$$y = m(x - x_0) + y_0$$

$$= 2x_0(x - x_0) + x_0^2$$

$$= 2x_0x - x_0^2$$