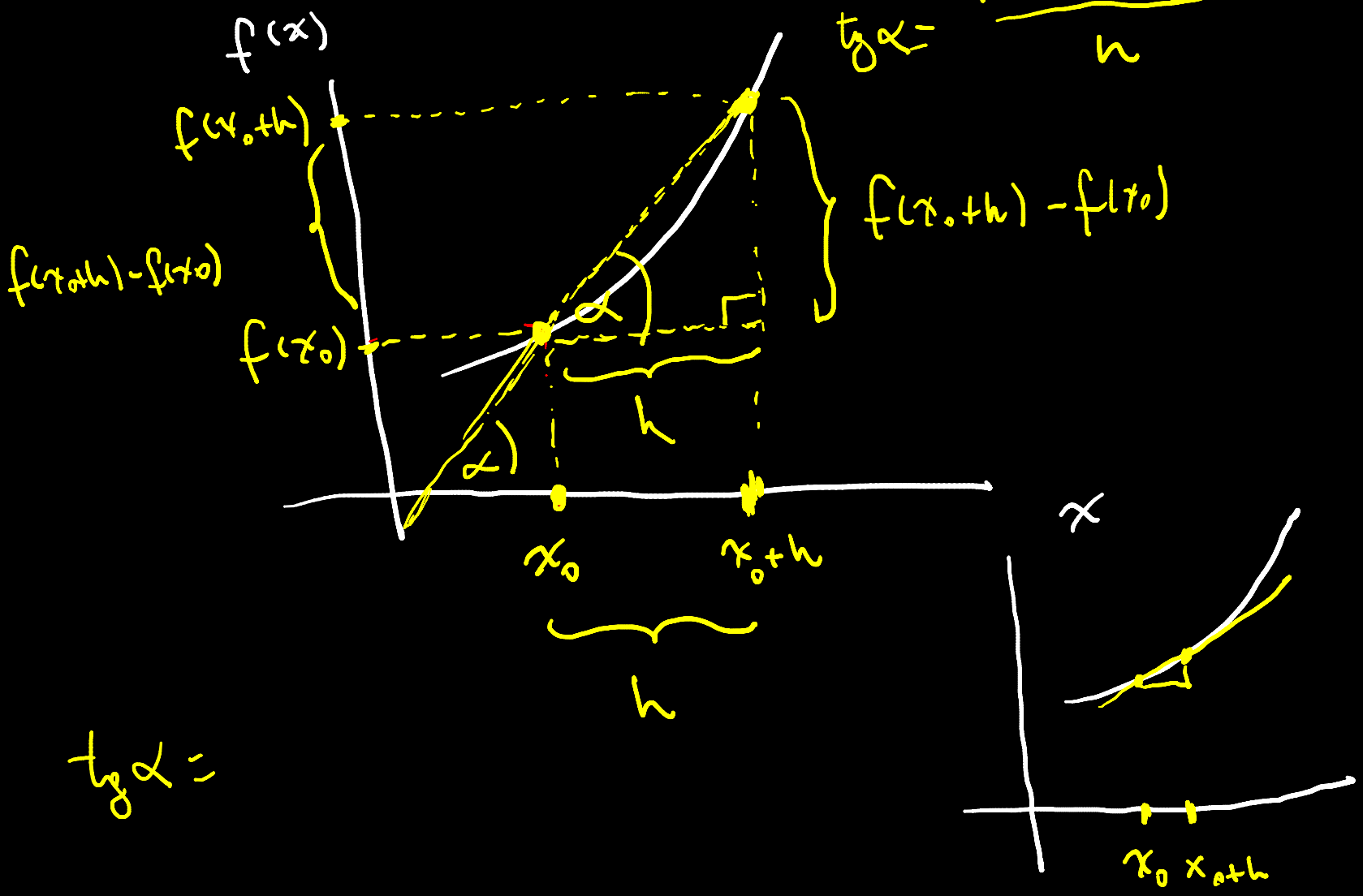
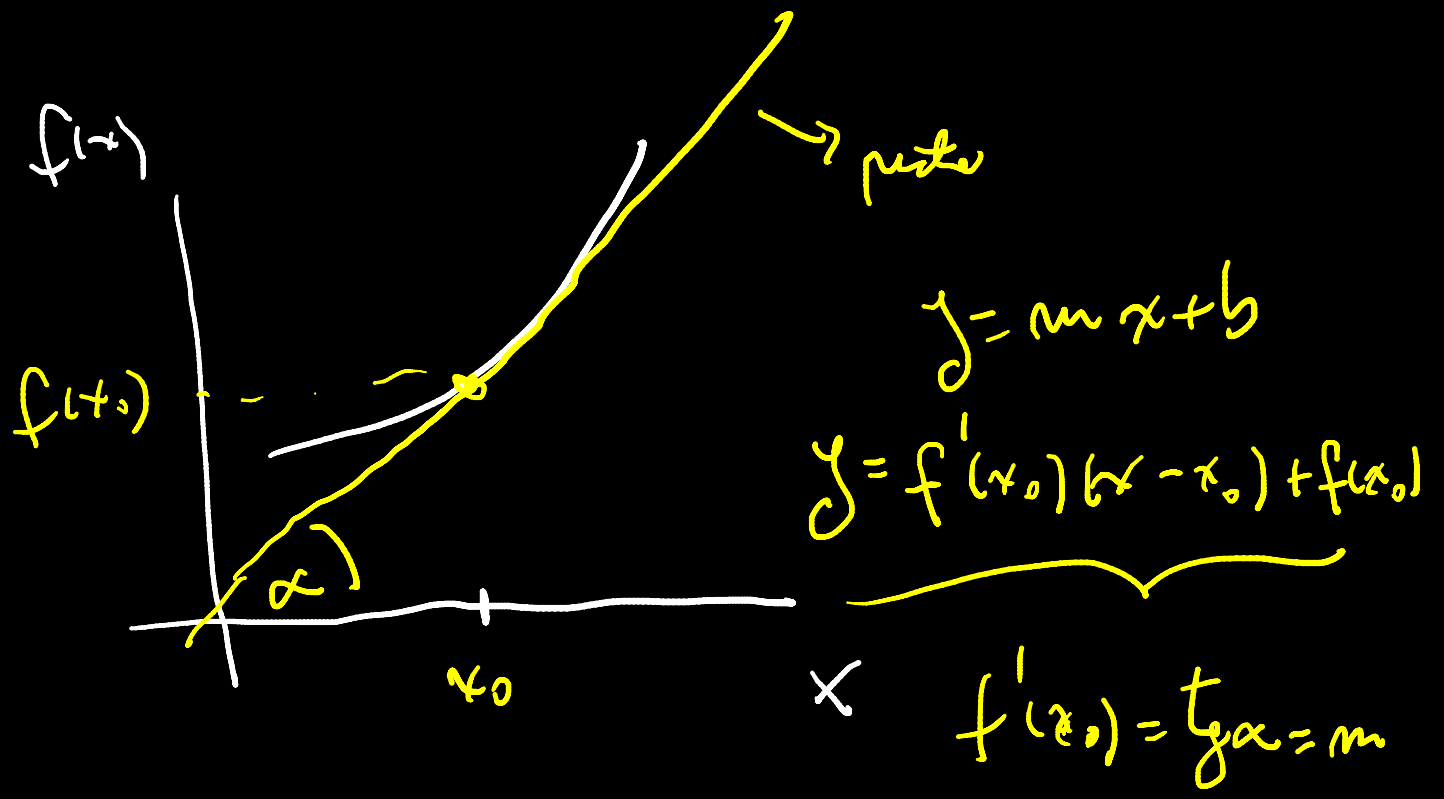
23/09/2025



$tg\alpha =$



$tg\alpha = f'(x_0) = m$

recta de pendiente $m = f'(x_0)$

y que pase por el punto $(x_0, f(x_0))$

~~$f(x) = x^2$~~

$g(x) = 3x^4 + 2x - 10$

$g'(x) = 12x^3 + 2$

$x_0 = 5$

$g(5) = 3 \cdot 5^4 + 2 \cdot 5 - 10 = 1975$

$g'(5) = 1502$

RESUMEN $f(x)$

Consideramos el punto $[x_0, f(x_0)]$

Calculamos $f'(x)$: $f'(x_0) = m$

$y = mx + b \longrightarrow f(x_0) = f'(x_0) \cdot x_0 + b$

$b = f(x_0) - f'(x_0) x_0$

$=$

$\therefore$ Obtenemos la recta que es tangente a la función $f(x)$ en el punto $(x_0, f(x_0))$

See $f(x) = 3e^{2x}$

$f'(x) = 6e^{2x}$

$x = 1$ $\quad f(1) = 3e^2$ $\quad (1, 3e^2)$

$x \quad y$

$f'(1) = 6 \cdot e^2 = m$

$y = mx + b$

$3e^2 = 6e^2 \cdot 1 + b$

$b = 3e^2 - 6e^2 = -3e^2$

$\therefore \quad y = 6 \cdot e^2 \cdot x - 3e^2$