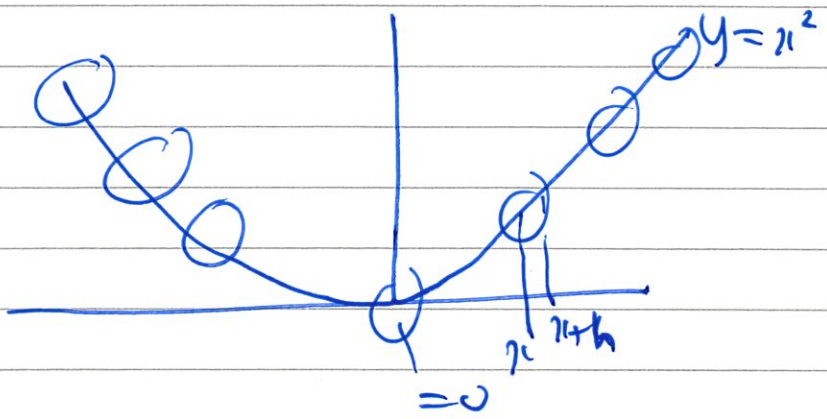
The Calculus Controversy

no.203,078 — The Birth of Calculus: These are the Guys to Blame — - Since 1802

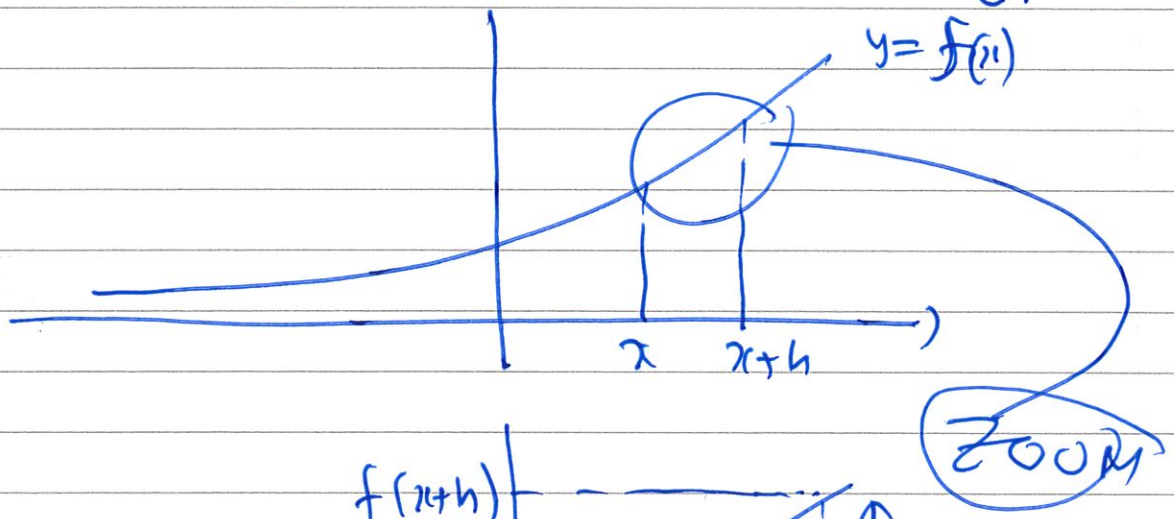
Leibniz vs. Newton

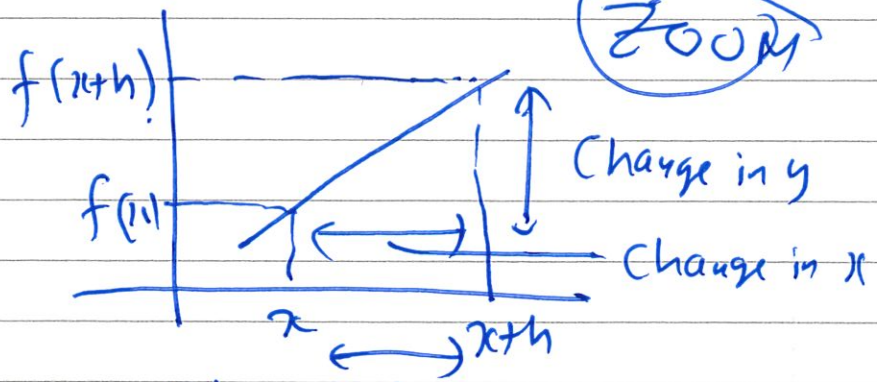
Section 6A The Derivative Page 272

The Derivative of a Function



gradient function $= 2x = \frac{dy}{dx}$





$$\frac{dy}{dx} = \lim_{h \to 0} \frac{f(x+h) - f(x)}{x+h-x}$$

$$= \lim_{h \to 0} \frac{f(x+h) - f(x)}{h}$$

$y = f(x)$ $\frac{dy}{dx}$, $f'(x)$ $\dot{x} = \frac{dx}{dt}$.

Ex:

$$M = \begin{cases} x & 0 \le x < 6 \\ 15 - 1.5x & 6 \le x \le 10 \end{cases}$$

$F = \frac{dM}{dx}$.

Soln: