... with chain rule Derivatives f'(g(x))g'(x)f(g(x))y  $e^{(x^3+1)}$  $e^{(\chi^3+1)}(3\chi^2)$ ex nxn-1 χ'n  $(5x-2)^{10}$  $10(5x-2)^{9}(5)$ (3sin2x) cosx  $\sin^3 x$ 0 3(5x)3(5) = 15 3x $2^{(x^3+3x)}$  $\frac{(x^3+3x)}{2} (\ln 2)(3x^2+3)$ 2×1n2 CO3 X  $\left(\cos\left(\frac{1}{x}\right)\right)\left(\frac{-1}{x^2}\right)$ Sinx  $sin\left(\frac{1}{x}\right)$ -sinx cos (2x)  $(-\sin(2^x))(2^x\ln 2)$ cos X sec<sup>2</sup> x tan x tan (x3+1)  $(sec^2(x^3+1))(3x^2)$ sec x tanx Sec x sec (x3+1)  $(Sec(\chi^3+1)+an(\chi^3+1))(3\chi^2)$ -cscx cotx Csc x Csc (x2)  $(-\csc(x^2)\cot(x^2))(2x)$  $-csc^2 x$ cot x  $\left(-\csc_{s}\left(\frac{x}{1}\right)\right)\left(\frac{x_{s}}{1}\right)$  $\cot\left(\frac{1}{x}\right)$  $\left(\frac{1}{\tan x}\right)$  sec<sup>2</sup> x 1/2 In x In(tanx)  $\left(\frac{1}{\left(\frac{1}{x}\right)\ln 5}\right)\left(\frac{-1}{x^2}\right)$  $\log_s(\frac{1}{x})$ log, x  $\left(\frac{1}{1+(\ln x)^2}\right)\left(\frac{1}{x}\right)$  $\frac{1}{1+\chi^2}$ tan-1(Inx) tan'x  $\frac{1}{\sqrt{1-(e^{x})^{2}}}(e^{x})$  $\sqrt{1-\gamma^2}$ sin-1 (ex) sin'x  $\frac{-1}{\left[1-\left(+av^{-1}x\right)^{2}\left(\frac{1}{1+x^{2}}\right)\right]}$ cos -1 x cos (tan x)