Derivatives

... with chain rule

y	y'	$f(g(x))$	$f'(g(x))\,g'(x)$
e^x	e^x	$e^{(x^3+1)}$	$e^{(x^3+1)}(3x^2)$
x^n	nx^{n-1}	$(5x-2)^{10}$	$10(5x-2)^9(5)$
7	0	$\sin^3 x$	$(3\sin^2 x)\cos x$
$3x$	3	$3(5x)$	$3(5) = 15$ 
2^x	$2^x \ln 2$	$2^{(x^3+3x)}$	$2^{(x^3+3x)}(\ln 2)(3x^2+3)$
$\sin x$	$\cos x$	$\sin\left(\frac{1}{x}\right)$	$\left(\cos\left(\frac{1}{x}\right)\right)\left(\frac{-1}{x^2}\right)$
$\cos x$	$-\sin x$	$\cos(2^x)$	$(-\sin(2^x))(2^x \ln 2)$
$\tan x$	$\sec^2 x$	$\tan(x^3+1)$	$(\sec^2(x^3+1))(3x^2)$
$\sec x$	$\sec x \tan x$	$\sec(x^3+1)$	$(\sec(x^3+1)\tan(x^3+1))(3x^2)$
$\csc x$	$-\csc x \cot x$	$\csc(x^2)$	$(-\csc(x^2)\cot(x^2))(2x)$
$\cot x$	$-\csc^2 x$	$\cot\left(\frac{1}{x}\right)$	$\left(-\csc^2\left(\frac{1}{x}\right)\right)\left(\frac{-1}{x^2}\right)$
$\ln x$	$\frac{1}{x}$	$\ln(\tan x)$	$\left(\frac{1}{\tan x}\right)\sec^2 x$
$\log_2 x$	$\frac{1}{x \ln 2}$	$\log_5\left(\frac{1}{x}\right)$	$\left(\frac{1}{\left(\frac{1}{x}\right)\ln 5}\right)\left(\frac{-1}{x^2}\right)$
$\tan^{-1} x$	$\frac{1}{1+x^2}$	$\tan^{-1}(\ln x)$	$\left(\frac{1}{1+(\ln x)^2}\right)\left(\frac{1}{x}\right)$
$\sin^{-1} x$	$\frac{1}{\sqrt{1-x^2}}$	$\sin^{-1}(e^x)$	$\frac{1}{\sqrt{1-(e^x)^2}}(e^x)$
$\cos^{-1} x$	$\frac{-1}{\sqrt{1-x^2}}$	$\cos^{-1}(\tan^{-1} x)$	$\frac{-1}{\sqrt{1-(\tan^{-1} x)^2}}\left(\frac{1}{1+x^2}\right)$