Derivative Rules: Given that $f(x)$ and $g(x)$ are differentiable, with c and n are real numbers:

Rule Name	Function	Derivative
Constant Rule	$j(x) = c$	$j'(x) = 0$
Power Rule	$j(x) = x^n$ $j(x) = cx$	$j'(x) = nx^{n-1}$ $j'(x) = c$
Constant Multiple Rule	$j(x) = cf(x)$	$j'(x) = cf'(x)$
Addition Rule	$j(x) = f(x) + g(x)$	$j'(x) = f'(x) + g'(x)$
Product Rule	$j(x) = f(x)g(x)$	$j'(x) = f'(x)g(x) + f(x)g'(x)$
Quotient Rule	$j(x) = \dfrac{f(x)}{g(x)}$	$j'(x) = \dfrac{f'(x)g(x) - f(x)g'(x)}{[g(x)]^2}$

CHAIN RULE DERIVATIVES:

Given that u is a function of x, then we have:

FUNCTION	DERIVATIVE	FUNCTION	DERIVATIVE
e^u	$e^u \cdot \dfrac{du}{dx}$	$\ln(u)$	$\dfrac{1}{u} \cdot \dfrac{du}{dx}$
$\sin(u)$	$\cos(u) \cdot \dfrac{du}{dx}$	$\arcsin(u)$	$\dfrac{1}{\sqrt{1-u^2}} \cdot \dfrac{du}{dx}$
$\cos(u)$	$-\sin(u) \cdot \dfrac{du}{dx}$	$\arccos(u)$	$-\dfrac{1}{\sqrt{1-u^2}} \cdot \dfrac{du}{dx}$
$\tan(u)$	$\sec^2(u) \cdot \dfrac{du}{dx}$	$\arctan(u)$	$\dfrac{1}{1+u^2} \cdot \dfrac{du}{dx}$
$\cot(u)$	$-\csc^2(u) \cdot \dfrac{du}{dx}$	$\text{arccot}(u)$	$-\dfrac{1}{1+u^2} \cdot \dfrac{du}{dx}$
$\sec(u)$	$\sec(u)\tan(u) \cdot \dfrac{du}{dx}$	$\text{arcsec}(u)$	$\dfrac{1}{\lvert u\rvert\sqrt{u^2-1}} \cdot \dfrac{du}{dx}$
$\csc(u)$	$-\csc(u)\cot(u) \cdot \dfrac{du}{dx}$	$\text{arccsc}(u)$	$-\dfrac{1}{\lvert u\rvert\sqrt{u^2-1}} \cdot \dfrac{du}{dx}$