Differentiation Formula	**Integration Formula**
$\dfrac{d}{dx}\left(\dfrac{x^{p+1}}{p+1}\right) = x^p$	$\displaystyle\int x^p \ dx = \frac{x^{p+1}}{p+1} + C, \quad p \neq -1$
$\dfrac{d}{dx}(\sin x) = \cos x$	$\displaystyle\int \cos x \ dx = \sin x + C$
$\dfrac{d}{dx}(\cos x) = -\sin x$	$\displaystyle\int \sin x \ dx = -\cos x + C$
$\dfrac{d}{dx}(\tan x) = \sec^2 x$	$\displaystyle\int \sec^2 x \ dx = \tan x + C$
$\dfrac{d}{dx}(\cot x) = -\csc^2 x$	$\displaystyle\int \csc^2 x \ dx = -\cot x + C$
$\dfrac{d}{dx}(\sec x) = \sec x \tan x$	$\displaystyle\int \sec x \tan x \ dx = \sec x + C$
$\dfrac{d}{dx}(\csc x) = -\csc x \cot x$	$\displaystyle\int \csc x \cot x \ dx = -\csc x + C$
$\dfrac{d}{dx}(e^x) = e^x$	$\displaystyle\int e^x \ dx = e^x + C$
$\dfrac{d}{dx}(\ln\lvert x\rvert) = \dfrac{1}{x}$	$\displaystyle\int \frac{1}{x} \ dx = \ln\lvert x\rvert + C$
$\dfrac{d}{dx}\left(\sin^{-1} x\right) = \dfrac{1}{\sqrt{1-x^2}}$	$\displaystyle\int \frac{1}{\sqrt{1-x^2}} \ dx = \sin^{-1} x + C$
$\dfrac{d}{dx}\left(\tan^{-1} x\right) = \dfrac{1}{1+x^2}$	$\displaystyle\int \frac{1}{1+x^2} \ dx = \tan^{-1} x + C$
$\dfrac{d}{dx}\left(\sec^{-1}\lvert x\rvert\right) = \dfrac{1}{x\sqrt{x^2-1}}$	$\displaystyle\int \frac{1}{x\sqrt{x^2-1}} \ dx = \sec^{-1}\lvert x\rvert + C$