Math 1101 Calculus I
Basic Derivative and Indefinite Integral Practice Sheet

$\frac{d}{dx}[x^n] \;=$

$\int x^n \, dx \;=$

$\frac{d}{dx}[e^x] \;=$

$\int e^x \, dx \;=$

$\frac{d}{dx}[\ln|x|] \;=$

$\int \frac{1}{x} \, dx \;=$

$\frac{d}{dx}[\sin x] \;=$

$\int \cos x \, dx \;=$

$\frac{d}{dx}[\cos x] \;=$

$\int \sin x \, dx \;=$

$\frac{d}{dx}[\tan x] \;=$

$\int \sec^2 x \, dx \;=$

$\frac{d}{dx}[\cot x] \;=$

$\int \csc^2 x \, dx \;=$

$\frac{d}{dx}[\sec x] \;=$

$\int \sec x \tan x \, dx \;=$

$\frac{d}{dx}[\csc x] \;=$

$\int \csc x \cot x \, dx \;=$

$\frac{d}{dx}[\arctan x] \;=$

$\int \frac{1}{x^2+1} \, dx \;=$

$\frac{d}{dx}[\arcsin x] \;=$

$\int \frac{1}{\sqrt{1-x^2}} \, dx \;=$

$\frac{d}{dx}[\arccos x] \;=$

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$\frac{d}{dx}[x^n] = nx^{n-1}$	$\int x^n\,dx = \frac{x^{n+1}}{n+1} + C$
$\frac{d}{dx}[e^x] = e^x$	$\int e^x\,dx = e^x + C$
$\frac{d}{dx}[\ln\lvert x\rvert] = \frac{1}{x}$	$\int \frac{1}{x}\,dx = \ln\lvert x\rvert + C$
$\frac{d}{dx}[\sin x] = \cos x$	$\int \cos x\,dx = \sin x + C$
$\frac{d}{dx}[\cos x] = -\sin x$	$\int \sin x\,dx = -\cos x + C$
$\frac{d}{dx}[\tan x] = \sec^2 x$	$\int \sec^2 x\,dx = \tan x + C$
$\frac{d}{dx}[\cot x] = -\csc^2 x$	$\int \csc^2 x\,dx = -\cot x + C$
$\frac{d}{dx}[\sec x] = \sec x \tan x$	$\int \sec x \tan x\,dx = \sec x + C$
$\frac{d}{dx}[\csc x] = -\csc x \cot x$	$\int \csc x \cot x\,dx = -\csc x + C$
$\frac{d}{dx}[\arctan x] = \frac{1}{x^2+1}$	$\int \frac{1}{x^2+1}\,dx = \arctan x + C$
$\frac{d}{dx}[\arcsin x] = \frac{1}{\sqrt{1-x^2}}$	$\int \frac{1}{\sqrt{1-x^2}}\,dx = \arcsin x + C$ common formula $= -\arccos x + C$ also true
$\frac{d}{dx}[\arccos x] = -\frac{1}{\sqrt{1-x^2}}$	