

Table of Derivatives

Below is a table of derivatives we should be familiar with.

f	f'	f	f'	f	f'
cf	cf'	c	0	$\sin(x)$	$\cos(x)$
$f \pm g$	$f' \pm g'$	x^n	nx^{n-1}	$\cos(x)$	$-\sin(x)$
fg	$f'g + fg'$	e^x	e^x	$\tan(x)$	$\sec^2(x)$
$f(g(x))$	$f'(g(x))g'(x)$	a^x	$a^x \ln(a)$	$\sec(x)$	$\sec(x) \tan(x)$
$\frac{f}{g}$	$\frac{f'g - fg'}{g^2}$	$\ln x $	$\frac{1}{x}$	$\csc(x)$	$-\csc(x) \cot(x)$
$f(x)^{g(x)}$	Use log diff.			$\cot(x)$	$-\csc^2(x)$
				$\sin^{-1}(x)$	$\frac{1}{\sqrt{1-x^2}}$
				$\tan^{-1}(x)$	$\frac{1}{1+x^2}$

Table of Antiderivatives

Below is a table of antiderivatives that we get by taking the derivative table and swapping columns. The arbitrary constant has been left off to save space.

f	F	f	F	f	F
cf	cF	c	cx	$\cos(x)$	$\sin(x)$
$f \pm g$	$F \pm G$	x^n	$\frac{1}{n+1}x^{n+1}$	$\sin(x)$	$-\cos(x)$
		$1/x$	$\ln x $	$\sec^2(x)$	$\tan(x)$
		e^x	e^x	$\sec(x) \tan(x)$	$\sec(x)$
				$\frac{1}{\sqrt{1-x^2}}$	$\sin^{-1}(x)$
				$\frac{1}{1+x^2}$	$\tan^{-1}(x)$

In Class Example

