Anti-derivative	The Function	Derivative
$F(x) = kx + C$	$f(x) = k$	$f'(x) = 0$
$F(x) = \frac{x^{n+1}}{n+1} + C$	$f(x) = x^n$	$f'(x) = x^{n-1}$
$F(x) = \ln\lvert x\rvert + C$	$f(x) = \frac{1}{x}$	
$F(x) = \ln\lvert g(x)\rvert + C$	$f(x) = \frac{g'(x)}{g(x)}$	
	$f(x) = \ln\lvert x\rvert$	$f'(x) = \frac{1}{x}$
	$f(x) = \ln\lvert ax\rvert$	$f'(x) = \frac{1}{x}$
	$f(x) = \ln\lvert g(x)\rvert$	$f'(x) = \frac{g'(x)}{g(x)}$
$F(x) = e^x + C$	$f(x) = e^x$	$f'(x) = e^x$
$F(x) = \frac{1}{a}e^x + C$	$f(x) = e^{ax}$	$f'(x) = ae^x$
	$f(x) = e^{g(x)} + C$	$f'(x) = g'(x) \cdot e^{g(x)}$
$F(x) = e^{g(x)} + C$	$f(x) = g'(x) \cdot e^{g(x)}$	
$F(x) = \frac{a^x}{\ln a} + C$	$f(x) = a^x$	$f'(x) = a^x \ln a$
$F(x) = -\cos x + C$	$f(x) = \sin x$	$f'(x) = \cos x$
$F(x) = \sin x + C$	$f(x) = \cos x$	$f'(x) = -\sin x$
$F(x) = -\frac{1}{a}\cos ax + C$	$f(x) = \sin ax$	$f'(x) = a \cdot \cos ax$
$F(x) = \frac{1}{a}\sin ax + C$	$f(x) = \cos ax$	$f'(x) = -a \cdot \sin ax$
	$f(x) = \tan x$	$f'(x) = \sec^2 x$
	$f(x) = \sec x$	$f'(x) = \sec x \tan x$
	$f(x) = \csc x$	$f'(x) = -\csc x \cot x$
	$f(x) = \cot x$	$f'(x) = -\csc^2 x$
$F(x) = \tan x + C$	$f(x) = \sec^2 x$	
$F(x) = \tan^{-1} x$	$f(x) = \frac{1}{x^2 + 1}$	
$F(x) = \tan^{-1} g(x)$	$f(x) = \frac{g'(x)}{[g(x)]^2 + 1}$	
$F(x) = \left(\frac{1}{a}\right)\tan^{-1}\left(\frac{g(x)}{a}\right)$	$f(x) = \frac{g'(x)}{[g(x)]^2 + a^2}$	
	$f(x) = \tan^{-1} x$	$f'(x) = \frac{1}{x^2 + 1}$
	$f(x) = \tan^{-1} g(x)$	$f'(x) = \frac{g'(x)}{[g(x)]^2 + 1}$
$F(x) = \sin^{-1} x$	$f(x) = \frac{1}{\sqrt{1 - x^2}}$	