ANTIDERIVATIVES

Function	Antiderivative	Comments
x^n for $n \neq -1$	$\frac{1}{n+1}x^{n+1} + C$	
$\frac{1}{x}$	$\ln(\lvert x\rvert) + C$	
a^x for $a \in \mathbb{R}$	$\frac{1}{\ln(a)}a^x + C$	In particular, $\int e^x dx = e^x + C$.
$\sin(x)$	$-\cos(x) + C$	
$\cos(x)$	$\sin(x) + C$	
$\tan(x)$	$\ln(\lvert\sec(x)\rvert) + C$	This can be calculated using u-sub.
$\sec(x)$	$\ln(\lvert\sec(x) + \tan(x)\rvert) + C$	
$\cot(x)$	$\ln(\lvert\sin(x)\rvert) + C$	This can be calculated using u-sub.
$\csc(x)$	$-\ln(\lvert\csc(x) + \cot(x)\rvert) + C$	
$\frac{1}{x^2+a^2}$	$\frac{1}{a}\arctan\left(\frac{x}{a}\right) + C$	
$\ln(x)$	$x\ln(x) - x + C$	This can be calculated using parts.
$f(ax+b)$ where $a, b \in \mathbb{R}$	$\frac{1}{a}F(ax+b)$ where $F' = f$	For example, $\int e^{2x+3}dx = \frac{1}{2}e^{2x+3}$. These can be calculated using u-sub.