Formulas for Calculus

	Function	derivative	Anti-derivative
1	$tan\ x$	$sec^2 x$	$ln\|secx\| + c$
2	$sec\ x$	$sec\ x\ tan\ x$	$ln\|\sec x + \tan x\| + c$
3	$cot\ x$	$-csc^2 x$	$ln\|\sin x\| + c$
4	$csc\ x$	$-\csc x \cot x$	$-ln\|\csc x + \cot x\| + c$
5	$e^{f(x)}$	$e^{f(x)} f'(x)$	
6	$a^{f(x)}$	$\ln a\ a^{f(x)} f'(x)$	
6	$\ln f(x)$	$\dfrac{f'(x)}{f(x)}$	
7	$sin^{-1} x$	$\dfrac{1}{\sqrt{1-x^2}}$	
8	$cos^{-1} x$	$-\dfrac{1}{\sqrt{1-x^2}}$	
9	$tan^{-1} x$	$\dfrac{1}{1+x^2}$	
10	$\sum_1^n i = \frac{1}{2} n(n+1)$	$\sum_1^n i^2 = \frac{1}{6} n(n+1)(2n+1)$	$\sum_1^n i^3 = \frac{1}{4} n^2 (n+1)^2$
11	$\sin 2x = 2 \sin x \cos x$	$\cos 2x = 2cos^2 x - 1$	$\cos 2x = 1 - 2sin^2 x$