Rational Functions	Integrals with roots
$\int x^a\,dx = \frac{x^{a+1}}{a+1}$ (for $a \neq -1$)	$\int \frac{dx}{\sqrt{a^2-x^2}} = \sin^{-1}\left(\frac{x}{a}\right) + C$
$\int \frac{dx}{x} = \ln\lvert x\rvert + C$	
$\int \frac{dx}{x^2+a^2} = \frac{1}{a}\tan^{-1}\left(\frac{x}{a}\right) + C$	
Exponential Functions	**Logarithms**
$\int e^x\,dx = e^x + C$	$\int \ln x\,dx =$
$\int a^x\,dx = \frac{a^x}{\ln a} + C$	$\int \log_a x\,dx =$
Trigonometric Functions	
$\int \sin x\,dx = -\cos x + C$	$\int \cos x\,dx = \sin x + C$
$\int \csc x\,dx = \ln\lvert\tan\left(\frac{x}{2}\right)\rvert + C$	$\int \sec x\,dx = \ln\lvert\sec x + \tan x\rvert + C$