1.

$\int dx$	$x + C$
$\int kx\,dx$	$kx + C$
$\int x^n\,dx \quad (n \neq -1)$	$\dfrac{x^{n+1}}{n+1} + C$
$\int \dfrac{1}{x}\,dx$	$\ln\lvert x\rvert + C$
$\int e^x\,dx$	$e^x + C$
$\int a^x\,dx \quad (a > 0, a \neq 1)$	$\dfrac{a^x}{\ln a} + C$
$\int \ln x\,dx$	$x \ln x - x + C$

2.

$\int \sin x\,dx$	$-\cos x + C$
$\int \cos x\,dx$	$\sin x + C$
$\int \tan x\,dx$	$-\ln\lvert\cos x\rvert + C$
$\int \cot x\,dx$	$\ln\lvert\sin x\rvert + C$
$\int \sec x\,dx$	$\ln\lvert\sec x + \tan x\rvert + C$
$\int \csc x\,dx$	$\ln\lvert\csc x - \cot x\rvert + C$
$\int \sec^2 x\,dx$	$\tan x + C$
$\int \csc^2 x\,dx$	$-\cot x + C$
$\int \sec x \tan x\,dx$	$\sec x + C$
$\int \csc x \cot x\,dx$	$-\csc x + C$

3.

$\int \sinh x\,dx$	$\cosh x + C$
$\int \cosh x\,dx$	$\sinh x + C$
$\int \tanh x\,dx$	$\ln\lvert\cosh x\rvert + C$
$\int \operatorname{sech}^2 x\,dx$	$\tanh x + C$

4.

$\int \dfrac{dx}{x^2 + a^2}$	$\dfrac{1}{a}\arctan\dfrac{x}{a} + C$
$\int \dfrac{dx}{x^2 - a^2}$	$\dfrac{1}{2a}\ln\left\lvert\dfrac{x-a}{x+a}\right\rvert + C$
$\int \dfrac{dx}{\sqrt{a^2 - x^2}}$	$\arcsin\dfrac{x}{a} + C$
$\int \dfrac{dx}{\sqrt{x^2 + a^2}}$	$\ln\left\lvert x + \sqrt{x^2 + a^2}\right\rvert + C$
$\int \dfrac{dx}{\sqrt{x^2 - a^2}}$	$\ln\left\lvert x + \sqrt{x^2 - a^2}\right\rvert + C$

5.

$\int xe^x\,dx$	$(x-1)e^x + C$
$\int x\sin x\,dx$	$\sin x - x\cos x + C$
$\int x\cos x\,dx$	$\cos x + x\sin x + C$
$\int x^n \ln x\,dx$	$x^{n+1}\left[\dfrac{\ln x}{n+1} - \dfrac{1}{(n+1)^2}\right] + C$

6. - **(** **)**

$\int \arcsin x\,dx$	$x\arcsin x + \sqrt{1-x^2} + C$
$\int \arccos x\,dx$	$x\arccos x - \sqrt{1-x^2} + C$
$\int \arctan x\,dx$	$x\arctan x - \dfrac{1}{2}\ln(1+x^2) + C$

7.

- : $\int u\,dv = uv - \int v\,du$
- : $u = g(x), \quad \int f(g(x))g'(x)\,dx = \int f(u)\,du$
- : $\int \dfrac{P(x)}{Q(x)}\,dx, \quad P(x) \quad Q(x)$ — .