Série 1

$$\int (x^2 - 3x + 1)\,dx = \frac{x^3}{3} - \frac{3x^2}{2} + x + k$$

$$\int \frac{x-1}{x^3}\,dx = \frac{1}{2x^2} - \frac{1}{x} + k$$

$$\int (3\sqrt{x} + \frac{1}{\sqrt[3]{x}})\,dx = 2\sqrt{x^3} + \frac{3\sqrt[3]{x^2}}{2} + k$$

$$\int 3(2x+5)^2\,dx = \frac{(2x+5)^3}{2} + k$$

$$\int 3\sin x\,dx = -3\cos x + k$$

$$\int (x - \cos x)\,dx = \frac{x^2}{2} - \sin x + k$$

$$\int (\sqrt{x} - 2e^x)\,dx = \frac{2\sqrt{x^3}}{3} - 2e^x + k$$

$$\int \sqrt{x}(x^2 - 5)\,dx = \frac{2\sqrt{x^7}}{7} - \frac{10\sqrt{x^3}}{3} + k$$

$$\int (2\sin x - 3\cos x)\,dx = -2\cos x - 3\sin x + k$$

$$\int \frac{(x-3)(x+1)}{x^4}\,dx = \frac{-1}{x} + \frac{1}{x^2} + \frac{1}{x^3} + k$$

Série 2

$$\int x(x^2-3)^5\,dx = \frac{(x^2-3)^6}{12} + k$$

$$\int \frac{2}{(x-1)^3}\,dx = \frac{-1}{(x-1)^2} + k$$

$$\int \frac{\tan x}{\cos^2 x}\,dx = \frac{\tan^2 x}{2} + k$$

$$\int \frac{x-1}{\sqrt{x^2-2x+3}\,dx} = \sqrt{x^2-2x+3} + k$$

$$\int \frac{e^{\frac{1}{x}}}{x^2}\,dx = -e^{\frac{1}{x}} + k$$

$$\int \cos 5x\,dx = \frac{\sin 5x}{5} + k$$

$$\int \frac{\sin x}{\cos^3 x}\,dx = \frac{1}{2\cos^2 x} + k$$

$$\int \sqrt{2-3x}\,dx = -\frac{2}{9}\sqrt{(2-3x)^3} + k$$

$$\int (e^x + e^{-x})\,dx = e^x - e^{-x} + k$$

$$\int 7^{x^2}\,dx = \frac{7^{x^2}}{2\ln 7} + k$$

Série 3

$$\int \frac{x+3}{x}\,dx = x + 3\ln|x| + k$$

$$\int \frac{2}{x-1}\,dx = 2\ln|x-1| + k$$

$$\int \tan x\,dx = -\ln|\cos x| + k$$

$$\int \frac{x+1}{x^2}\,dx = \ln|x| - \frac{1}{x} + k$$

$$\int \cos^2 x\,dx = \frac{x}{2} + \frac{1}{4}\sin 2x + k$$

$$\int \frac{\ln x}{x}\,dx = \frac{\ln^2 x}{2} + k$$

$$\int \frac{e^x}{e^x+1}\,dx = \ln(1+e^x) + k$$

$$\int \frac{x}{x^2+1}\,dx = \frac{1}{2}\ln(x^2+1) + k$$

$$\int \frac{\sin 2x}{\cos^2 x + 1}\,dx = -\ln|\cos^2 x + 1| + k$$

$$\int \frac{\cos\sqrt{x}}{\sqrt{x}}\,dx = 2\sin\sqrt{x} + k$$

Série 4

$$\int \frac{x-3}{x+2}\,dx = x - 5\ln|x+2| + k$$

$$\int \frac{2x-3}{3x-1}\,dx = \frac{2}{9}(3x-1) - \frac{7}{9}\ln|3x-1| + k$$

$$\int \frac{1}{x^2-4}\,dx = \frac{1}{4}\ln\left|\frac{x-2}{x+2}\right| + k$$

$$\int \frac{2x+3}{x^2+x-6}\,dx = \frac{7}{5}\ln|x-2| + \frac{3}{5}\ln|x+3| + k$$

$$\int \frac{1}{2x^2-5x+3}\,dx = \ln\left|\frac{2x-3}{x-1}\right| + k$$

$$\int \frac{dx}{x\ln^2 x} = -\frac{1}{\ln x} + k$$

$$\int \frac{\sqrt{\ln x + 1}}{x}\,dx = \frac{2}{3}\sqrt{(\ln x + 1)^3} + k$$

$$\int \frac{x^2}{x^2-2}\,dx = x + \frac{\sqrt{2}}{2}\ln\left|\frac{x-\sqrt{2}}{x+\sqrt{2}}\right| + k$$

$$\int \frac{\cos x - \sin x}{\cos x + \sin x}\,dx = \ln|\cos x + \sin x| + k$$

$$\int \frac{1}{e^x+1}\,dx = x - \ln(1+e^x) + k$$

Série 5

$$\int \frac{\cos x.\sin x}{\cos^2 2x}\,dx = \frac{1}{4\cos 2x} + k$$

$$\int \frac{x^3}{x-2}\,dx = \frac{x^3}{3} + x^2 + 4x + 8\ln|x-2| + k$$

$$\int \frac{dx}{\sqrt{e^x}} = -\frac{2}{\sqrt{e^x}} + k$$

$$\int \frac{dx}{x.\ln^2(2x)} = -\frac{1}{\ln 2x} + k$$

$$\int 10^{\sin x}\cos x\,dx = \frac{10^{\sin x}}{\ln 10} + k$$

$$\int \cos^3 x\,dx = \sin x - \frac{\sin^3 x}{3} + k$$

$$\int \cos^2 x.\sin^2 x\,dx = \frac{x}{8} - \frac{\sin 4x}{32} + k$$

$$\int \frac{dx}{\sin x} = \ln\left|\tan\frac{x}{2}\right| + k$$

$$\int \cos x.\operatorname{cotg} x\,dx = \cos x + \ln\left|\tan\frac{x}{2}\right| + k$$

Série 6

$$\int \cos^2 x\,dx = \frac{x}{2} + \frac{\sin 2x}{4} + k$$

$$\int \operatorname{tg}^2 x\,dx = \operatorname{tg} x - x + k$$

$$\int x\cos 3x\,dx = \frac{\cos 3x}{9} + \frac{x\sin 3x}{3} + k$$

$$\int e^{2x}x^2\,dx = \frac{e^{2x}}{4}(2x^2 - 2x + 1) + k$$

$$\int (2x-1)\sin x\,dx = -(2x-1)\cos x + 2\sin x + k$$

$$\int x^2\ln x\,dx = \frac{x^3\ln x}{3} - \frac{x^3}{9} + k$$

$$\int 2^{-x}x\,dx = -2^{-x}\frac{\ln 2\ .x+1}{\ln^2 2} + k$$

$$\int x^2e^{3x}\,dx = \frac{e^{3x}}{27}(9x^2 - 6x + 2) + k$$

$$\int (x-1)^2 10^{2x}\,dx = 10^{2x}\left(\frac{(x-1)^2}{2\ln 10} - \frac{(x-1)}{2\ln^2 10} + \frac{1}{4\ln^3 10}\right)$$

Série 7

$$\int \frac{x}{\sqrt{x+1}}\,dx = \frac{2}{3}(x-2)\sqrt{x-1} + k$$

$$\int x(5x^2-7)^7\,dx = \frac{1}{80}(5x^2-7)^8 + k$$

$$\int \frac{x+1}{\sqrt{x}+1}\,dx = \frac{2}{3}\sqrt{x^3} - x + 4\sqrt{x} - 4\ln(\sqrt{x}+1) + k$$

$$\int \frac{x}{\sqrt{2x-1}}\,dx = \frac{1}{3}(x+1)\sqrt{2x-1} + k$$

$$\int \frac{e^{2x}}{\sqrt{1+e^x}}\,dx = \frac{2}{3}(e^x-2)\sqrt{1+e^x} + k$$

$$\int \frac{\sin^3 x}{\sqrt{\cos x}}\,dx = \frac{1}{5}\sqrt{\cos x}(\cos 2x - 9) + k$$

$$\int \frac{1}{x\sqrt{x^2+1}}\,dx = \ln|x| - \ln(\sqrt{x^2+1}+1) + k$$

$$\int \frac{\sqrt{x^2+1}}{x}\,dx = \ln|x| - \ln(\sqrt{x^2+1}+1) + \sqrt{x^2+1} + k$$

$$\int x(2x+5)^{10}\,dx = \frac{(2x+5)^{11}}{22} + k$$

Formulaire d'intégration

$$\int 1.\,dx = x + k$$

$$\int x^n\,dx = \frac{x^{n+1}}{n+1} + k \qquad (n\neq -1)$$

$$\int k.f = k.\int f$$

$$\int (f+g) = \int f + \int g$$

$$\int \sin x\,dx = -\cos x + k$$

$$\int \cos x\,dx = \sin x + k$$

$$\int \frac{dx}{\cos^2 x} = \operatorname{tg} x + k$$

$$\int \frac{dx}{\sin^2 x} = -\operatorname{cotg} x + k$$

$$\int \frac{dx}{\sqrt{1-x^2}} = \operatorname{Arcsin} x + k$$

$$\int \frac{dx}{1+x^2} = \operatorname{Arctg} x + k$$

$$\int (f'\circ g).g' = f\circ g$$

$$\int e^x\,dx = e^x + k$$

$$\int a^x\,dx = \frac{a^x}{\ln a} + k$$

$$\int \frac{1}{x}\,dx = \ln|x| + k$$

$$\int f'.\,g = f\ .\ g - \int f.g' \qquad \text{(par parties)}$$