Integrali

$$\int x^a dx = \frac{x^{a+1}}{a+1} + c \quad \forall\ a \neq -1$$

$$\int \left[f(x) \right]^a \cdot f'(x) dx = \frac{\left[f(x) \right]^{a+1}}{a+1} + c \quad \forall\ a \neq -1$$

$$\int \sqrt{x} dx = \frac{2}{3} \sqrt{x^3} + c$$

$$\int \frac{1}{\sqrt{x}} dx = 2\sqrt{x} + c$$

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

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

$$\int e^x dx = e^x + c$$

$$\int x e^x dx = (x-1)e^x + c$$

$$\int e^{f(x)} \cdot f'(x) dx = e^{f(x)} + c$$

$$\int a^x dx = \frac{a^x}{\ln(a)} + c \quad \forall \begin{cases} a > 0 \\ a \neq 1 \end{cases}$$

$$\int a^{f(x)} \cdot f'(x) dx = \frac{a^{f(x)}}{\ln(a)} + c \quad \forall \begin{cases} a > 0 \\ a \neq 1 \end{cases}$$

$$\int \frac{f'(x)}{f(x)} dx = \ln|f(x)| + c$$

$$\int f'(x) g\left[f(x) \right] dx = G[f(x)] + c$$

$$\int \ln(x) dx = x \cdot \ln(x) - x + c$$

$$\int \ln\left[f(x) \right] dx = f(x) \cdot \ln\left[f(x) \right] - f(x) + c$$

$$\int \sqrt{a^2 - x^2} dx = \frac{1}{2} \left[a^2 \cdot ArcSin\left(\frac{x}{a} \right) + x\sqrt{a^2 - x^2} \right] + c$$

$$\int \sqrt{x^2 \pm a^2} dx = \frac{1}{2} \left[x \cdot \sqrt{x^2 \pm a^2} \pm a^2 \cdot \ln\left| x + \sqrt{x^2 \pm a^2} \right| \right] +$$

$$\int \frac{1}{1+x^2} dx = ArcTg(x) + c$$

$$\int \frac{1}{1+\alpha x^2} dx = \frac{ArcTg\left(\sqrt{\alpha} \cdot x \right)}{\sqrt{\alpha}} + c$$

$$\int \frac{1}{\alpha x^2 + \beta} dx = \frac{1}{\sqrt{\alpha \cdot \beta}} \cdot ArcTg\left(\sqrt{\frac{\alpha}{\beta}} \cdot x \right) + c$$

$$\int \frac{1}{1+e^x} dx = -\ln\left(e^{-x} + 1 \right) + c$$

$$\int \frac{1}{a^2 + x^2} dx = \frac{1}{a} ArcTg\left(\frac{x}{a} \right) + c \quad \forall\ a \neq 0$$

$$\int \frac{1}{a^2 - x^2} dx = \frac{1}{2a} \ln\left| \frac{x+a}{x-a} \right| + c$$

$$\int \frac{1}{x^2 - a^2} dx = \frac{1}{2a} \ln\left| \frac{x+a}{x-a} \right| + c$$

$$\int \frac{1}{\sqrt{1-x^2}} dx = ArcSin(x) + c$$

$$\int \frac{1}{\sqrt{a^2 - x^2}} dx = ArcSin\left(\frac{x}{a} \right) + c$$

$$\int \frac{x}{\sqrt{x^2 + a}} dx = \sqrt{x^2 + a} + c$$

$$\int \frac{x}{\sqrt{a - x^2}} dx = -\sqrt{a - x^2} + c \quad \forall\ a > 0$$

$$\int \frac{1}{\sqrt{x^2 \pm a^2}} dx = \ln\left| x + \sqrt{x^2 \pm a^2} \right| + c$$

$$\int \frac{1}{\sqrt{x^2 + 1}} dx = SettSinH(x) + c \quad \text{con } \mathrm{I} = \mathrm{R}$$

$$\int \frac{1}{\sqrt{x^2 - 1}} dx = SettCosH(x) + c \quad \text{con } \mathrm{I} = (1, +\infty)$$

$$\int \frac{1}{1-x^2} dx = SettTgH(x) + c \quad \forall\ |\mathrm{x}| < 1$$

$$\int \frac{1}{1-x^2} dx = SettCtgH(x) + c \quad \forall\ |\mathrm{x}| > 1$$

$$\int Sin(x) dx = -Cos(x) + c$$

$$\int Cos(x) dx = Sin(x) + c$$

$$\int Sin(ax) dx = -\frac{Cos(ax)}{a} + c$$

$$\int Cos(ax) dx = \frac{Sin(ax)}{a} + c$$

$$\int Sin\left[f(x) \right] \cdot f'(x) dx = -Cos\left[f(x) \right] + c$$

$$\int Cos\left[f(x) \right] \cdot f'(x) dx = Sin\left[f(x) \right] + c$$

$$\int Tg(x) dx = -\int \frac{-Sin(x)}{Cos(x)} = -\ln|Cos(x)| + c$$

$$\int Ctg(x) dx = \int \frac{Cos(x)}{Sin(x)} \ln|Sin(x)| + c$$

$$\int x \cdot Sin(x) dx = Sin(x) - x \cdot Cos(x) + c$$

$$\int Sin^2(x)\,dx = \frac{\left[x - Sin(x)Cos(x)\right]}{2} + c$$

$$\int Sin^2(\alpha x)\,dx = \frac{x}{2} - \frac{Sin(2\alpha x)}{4\alpha} + c$$

$$\int Cos^2(x)\,dx = \frac{\left[x + Sin(x)Cos(x)\right]}{2} + c$$

$$\int Cos^2(\alpha x)\,dx = \frac{x}{2} + \frac{Sin(2\alpha x)}{4\alpha} + c$$

$$\int \frac{1}{Sin(x)}\,dx = \ln\left|Tg\left(\frac{x}{2}\right)\right| + c$$

$$\int \frac{1}{Cos(x)}\,dx = \ln\left|Tg\left(\frac{x}{2} + \frac{\pi}{4}\right)\right| + c$$

$$\int \frac{1}{Sin^2(x)}\,dx = -Ctg(x) + c$$

$$\int \frac{1}{Cos^2(x)}\,dx = Tg(x) + c$$

$$\int \frac{1}{Sin^2\left[f(x)\right]} \cdot f'(x)\,dx = -Ctg\left[f(x)\right] + c$$

$$\int \frac{1}{Cos^2\left[f(x)\right]} \cdot f'(x)\,dx = Tg\left[f(x)\right] + c$$

$$\int SinH(x)\,dx = CosH(x) + c$$

$$\int CosH(x)\,dx = SinH(x) + c$$

$$\int \frac{1}{SinH^2(x)}\,dx = \int 1 - CtgH^2(x)\,dx = -CtgH(x) + c$$

$$\int \frac{1}{CosH^2(x)}\,dx = \int 1 - TgH^2(x)\,dx = TgH(x) + c$$