# Tabella Integrali

| Funzioni elementari | Funzioni composte | Esempi |
|---|---|---|
| $\int dx = x$ | $\int k dx = kx$ | $\int 3dx = 3x$; $\int \frac{1}{2}dx = \frac{x}{2}$; $\int -1dx = -x$; $\int \pi dx = \pi x$; $\int e dx = ex$ |
| $\int x^n dx = \frac{x^{n+1}}{n+1}$ se $n \neq -1$ | $\int f'(x)[f(x)]^n dx = \frac{[f(x)]^{n+1}}{n+1}$ se $n \neq -1$ | $\int x dx = \frac{x^2}{2}$; $\int 3x^2[x^3+1]^5 dx = \frac{(x^3+1)^6}{6}$; $\int \frac{\ln(x)}{x} dx = \frac{\ln^2(x)}{2}$ |
| $\int \frac{1}{\sqrt{x}} dx = 2\sqrt{x}$ | $\int \frac{f'(x)}{\sqrt{f(x)}} dx = 2\sqrt{f(x)}$ | $\int \frac{e^x}{\sqrt{e^x+5}} dx = 2\sqrt{e^x+5}$; $\int \frac{\sin(x)}{\sqrt{\cos(x)}} dx = -2\sqrt{\cos(x)}$ |
| $\int e^x dx = e^x$ | $\int f'(x) e^{f(x)} dx = e^{f(x)}$ | $\int e^{-x} dx = -e^{-x}$; $\int 2xe^{x^2} dx = e^{x^2}$; $\int \cos(x) e^{\sin(x)} = e^{\sin(x)}$ |
| $\int a^x dx = \frac{a^x}{\ln(a)}$ | $\int f'(x) a^{f(x)} dx = \frac{a^{f(x)}}{\ln(a)}$ | $\int 2^x dx = \frac{2^x}{\ln(2)}$; $\int 7x^6 3^{x^7} dx = \frac{3^{x^7}}{\ln(3)}$ |
| $\int \frac{1}{x} dx = \ln\|x\|$ | $\int \frac{f'(x)}{f(x)} dx = \ln\|f(x)\|$ | $\int \frac{e^x}{e^x+1} dx = \ln(e^x+1)$; $\int \frac{2x}{x^2-1} dx = \ln\|x^2-1\|$ |
| $\int \sin(x) dx = -\cos(x)$ | $\int f'(x)\sin[f(x)] dx = -\cos[f(x)]$ | $\int 2\sin(2x) dx = -\cos(2x)$ |
| $\int \cos(x) dx = \sin(x)$ | $\int f'(x)\cos[f(x)] dx = \sin[f(x)]$ | $\int \cos(2x) dx = \frac{\sin(2x)}{2}$ |
| $\int \frac{1}{1+x^2} dx = \arctan(x)$ | $\int \frac{f'(x)}{1+[f(x)]^2} dx = \arctan[f(x)]$ | $\int \frac{e^x}{1+e^{2x}} dx = \arctan(e^x)$ |
| $\int \frac{1}{\cos^2(x)} dx = \tan(x)$ | $\int \frac{f'(x)}{\cos^2[f(x)]} dx = \tan[f(x)]$ | $\int \frac{1}{x\cos^2[\ln(x)]} dx = \tan[\ln(x)]$ |
| $\int [1+\tan^2(x)] dx = \tan(x)$ | $\int f'(x)[1+\tan^2[f(x)]] dx = \tan[f(x)]$ | $\int 3x^2[1+\tan^2(x^3)] dx = \tan(x^3)$ |
| $\int \frac{1}{\sin^2(x)} dx = -\cot(x)$ | $\int \frac{f'(x)}{\sin^2[f(x)]} dx = -\cot[f(x)]$ | $\int \frac{5}{\sin^2[5x]} dx = -\cot(5x)$ |
| $\int \frac{1}{\sqrt{1-x^2}} dx = \arcsin(x)$ | $\int \frac{f'(x)}{\sqrt{1-[f(x)]^2}} dx = \arcsin[f(x)]$ | $\int \frac{15x^4}{\sqrt{1-[3x^5]^2}} dx = \arcsin(3x^5)$ |
| $\int -\frac{1}{\sqrt{1-x^2}} dx = \arccos(x)$ | $\int -\frac{f'(x)}{\sqrt{1-[f(x)]^2}} dx = \arccos[f(x)]$ | $\int -\frac{3e^{3x}}{\sqrt{1-[e^{3x}]^2}} dx = \arccos(e^{3x})$ |