

**Nr. Derivate**

1.  $c' = 0$
2.  $x' = 1$
3.  $(x^n)' = nx^{n-1}$
4.  $(\sqrt{x})' = \frac{1}{2\sqrt{x}}$
5.  $\left(\frac{1}{x}\right)' = -\frac{1}{x^2}$
6.  $(e^x)' = e^x$
7.  $(a^x)' = a^x \ln a$
8.  $(\ln x)' = \frac{1}{x}$
9.  $(\log_a x)' = \frac{1}{x \ln a}$
10.  $(\arctg x)' = \frac{1}{x^2 + 1}$
11.  $(\operatorname{arcctg} x)' = -\frac{1}{x^2 + 1}$
12.  $(\arcsin x)' = \frac{1}{\sqrt{1 - x^2}}$
13.  $(\arccos x)' = -\frac{1}{\sqrt{1 - x^2}}$
14.  $(\sin x)' = \cos x$
15.  $(\cos x)' = -\sin x$
16.  $(\operatorname{tg} x)' = \frac{1}{\cos^2 x}$
17.  $(\operatorname{ctg} x)' = -\frac{1}{\sin^2 x}$
18.  $(\sqrt{x^2 - a^2})' = \frac{x}{\sqrt{x^2 - a^2}}$
19.  $(\sqrt{x^2 + a^2})' = \frac{x}{\sqrt{x^2 + a^2}}$
20.  $(\sqrt{a^2 - x^2})' = -\frac{x}{\sqrt{a^2 - x^2}}$

**Nr.**

**Integrale**

1.  $\int dx = x + C$
2.  $\int x dx = \frac{x^2}{2} + C$
3.  $\int x^n dx = \frac{x^{n+1}}{n+1} + C$
4.  $\int \sqrt{x} dx = \frac{2}{3} x\sqrt{x} + C$
5.  $\int e^x dx = e^x + C$
6.  $\int a^x dx = \frac{a^x}{\ln a}$
7.  $\int \frac{1}{x} dx = \ln |x| + C$
8.  $\int \frac{1}{x^2 - a^2} dx = \frac{1}{2a} \ln \left| \frac{x-a}{x+a} \right| + C$
9.  $\int \frac{1}{x^2 + 1} dx = \arctg x + C$
10.  $\int \frac{1}{x^2 + a^2} dx = \frac{1}{a} \arctg \frac{x}{a} + C$
11.  $\int \frac{1}{\sqrt{x^2 - a^2}} dx = \ln \left| x + \sqrt{x^2 - a^2} \right| + C$
12.  $\int \frac{1}{\sqrt{x^2 + a^2}} dx = \ln \left( x + \sqrt{x^2 + a^2} \right) + C$
13.  $\int \frac{1}{\sqrt{1 - x^2}} dx = \arcsin x + C$
14.  $\int \frac{1}{\sqrt{a^2 - x^2}} dx = \arcsin \frac{x}{a} + C$
15.  $\int \sin x dx = -\cos x + C$
16.  $\int \cos x dx = \sin x + C$
17.  $\int \operatorname{tg} x dx = -\ln |\cos x| + C$
18.  $\int \operatorname{ctg} x dx = \ln |\sin x| + C$
19.  $\int \frac{1}{\cos^2 x} dx = \operatorname{tg} x + C$
20.  $\int \frac{1}{\sin^2 x} dx = -\operatorname{ctg} x + C$
21.  $\int \frac{x}{\sqrt{x^2 - a^2}} dx = \sqrt{x^2 - a^2} + C$
22.  $\int \frac{x}{\sqrt{x^2 + a^2}} dx = \sqrt{x^2 + a^2} + C$
23.  $\int \frac{x}{\sqrt{a^2 - x^2}} dx = -\sqrt{a^2 - x^2} + C$