

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	$(\operatorname{arctg} x)' = \frac{1}{x^2+1}$
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	$(\operatorname{ctg} x)' = -\frac{1}{\sin^2 x}$

Nr.	Integrale nedefinite
1	$\int 1 \, dx = x + C$
	$\int a \, dx = ax + C$
2	$\int x \, dx = \frac{x^2}{2} + C$
	$\int x^n \, dx = \frac{x^{n+1}}{n+1} + C$
3	$\int \sqrt{x} \, dx = \frac{2}{3} x \sqrt{x} + C$
4	$\int e^x \, dx = e^x + C$
	$\int e^{-x} \, dx = -e^{-x} + C$
	$\int e^{\alpha x} \, dx = \frac{e^{\alpha x}}{\alpha} + C$
5	$\int a^x \, dx = \frac{a^x}{\ln a} + C$
	$\int a^{\alpha x} \, dx = \frac{a^{\alpha x}}{\alpha \ln a} + C$
6	$\int \frac{1}{x} \, dx = \ln x  + C$
	$\int \frac{1}{x \pm a} \, dx = \ln x \pm a  + C$
	$\int \frac{1}{ax \pm b} \, dx = \frac{1}{a} \ln ax \pm b  + C$
7	$\int \frac{1}{x^2 - a^2} \, dx = \frac{1}{2a} \ln \left  \frac{x-a}{x+a} \right  + C$
8	$\int \frac{x}{x^2 - a^2} \, dx = \frac{1}{2} \ln x^2 - a^2  + C$
	$\int \frac{x}{x^2 + a^2} \, dx = \frac{1}{2} \ln(x^2 + a^2) + C$
9	$\int \frac{1}{x^2 + 1} \, dx = \operatorname{arctg} x + C$
	$\int \frac{1}{x^2 + a^2} \, dx = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$



10	$\int \frac{1}{\sqrt{x^2 - a^2}} dx = \ln x + \sqrt{x^2 - a^2}  + C$
	$\int \frac{1}{\sqrt{x^2 + a^2}} dx = \ln(x + \sqrt{x^2 + a^2}) + C$
11	$\int \frac{1}{\sqrt{a^2 - x^2}} dx = \arcsin \frac{x}{a} + C$
12	$\int \frac{x}{\sqrt{x^2 \pm a^2}} dx = \sqrt{x^2 \pm a^2} + C$
	$\int \frac{x}{\sqrt{a^2 - x^2}} dx = -\sqrt{a^2 - x^2} + C$
13	$\int \sin x dx = -\cos x + C$
	$\int \sin \alpha x dx = -\frac{\cos \alpha x}{\alpha} + C$

14	$\int \cos x dx = \sin x + C$
	$\int \cos \alpha x dx = \frac{\sin \alpha x}{\alpha} + C$
15	$\int \frac{1}{\cos^2 x} dx = \operatorname{tg} x + C$
16	$\int \frac{1}{\sin^2 x} dx = -\operatorname{ctg} x + C$
17	$\int \operatorname{tg} x dx = -\ln \cos x  + C$
18	$\int \operatorname{ctg} x dx = \ln \sin x  + C$

Nr.	Operatii & Formule
1	$(f \pm g)' = f' \pm g'$
2	$(f \cdot g)' = f' \cdot g + f \cdot g'$
3	$(cf)' = c \cdot f'$ C e o constanta/numar (ascuns)
4	$(f(u))' = f'(u) \cdot u'$
5	$\left(\frac{f}{g}\right)' = \frac{f' \cdot g - f \cdot g'}{g^2}$
6	$\int [f(x) \pm g(x)] dx = \int f(x) dx \pm \int g(x) dx$
7	$\int \alpha \cdot f(x) dx = \alpha \int f(x) dx$
8	$\int [f(x)]' dx = f(x) + C$
9	$\int f(x)g'(x) dx = f(x)g(x) - \int f'(x)g(x) dx$
	$\int_a^b f(x)g'(x) dx = f(x)g(x) \big _a^b - \int_a^b f'(x)g(x) dx$
10	$\int_a^b f(x) dx = F(x) \big _a^b = F(b) - F(a)$ F e o primitiva f

11	$\int_a^a f(x) dx = 0$
12	$\int_a^b f(x) dx = -\int_b^a f(x) dx$

Nr.	Drepte
1	<i>Ecuatia tangentei la Gf in punctul A(x<sub>0</sub>, f(x<sub>0</sub>))</i> $t: y - f(x_0) = f'(x_0)(x - x_0)$
2	<i>Panta tangentei</i> $m_t = f'(x_0)$
3	$\lim_{x \rightarrow x_0} \frac{f(x) - f(x_0)}{x - x_0} = f'(x_0)$