K¨vjKjv‡mi mÎvejx

$\frac{d}{dx}\left(x^n\right)=nx^{n-1}$; $\frac{d}{dx}\left(\sqrt{x}\right)=\frac{1}{2\sqrt{x}}$; $\frac{d}{dx}\left(\frac{1}{x}\right)=-\frac{1}{x^2}$;

$\frac{d}{dx}\left(e^x\right)=e^x$; $\frac{d}{dx}\left(e^{mx}\right)=me^{mx}$;

$\frac{d}{dx}\left(a^x\right)=a^x\ln a$;

$\frac{d}{dx}(\ln x)=\frac{1}{x}$; $\frac{d}{dx}(\log_a x)=\frac{1}{x}\log_a e$

$\frac{d}{dx}(\sin x)=\cos x$; $\frac{d}{dx}(\sin(ax+b))=a\cos(ax+b)$;

$\frac{d}{dx}(\cos x)=-\sin x$; $\frac{d}{dx}(\cos(ax+b))=-a\sin(ax+b)$;

$\frac{d}{dx}(\tan x)=\sec^2 x$; $\frac{d}{dx}(\tan mx)=m\sec^2 mx$;

$\frac{d}{dx}(\cot x)=-\operatorname{cosec}^2 x$; $\frac{d}{dx}(\cot mx)=-m\operatorname{cosec}^2 mx$;

$\frac{d}{dx}(\sec x)=\sec x\tan x$; $\frac{d}{dx}(\sec mx)=m\sec mx\tan mx$;

$\frac{d}{dx}(\operatorname{cosec} x)=-\operatorname{cosec} x\cot x$;

$\frac{d}{dx}(\operatorname{cosec} mx)=-m\operatorname{cosec} mx\cot mx$;

$\frac{d}{dx}\left(\sin^{-1} x\right)=\frac{1}{\sqrt{1-x^2}}$;

$\frac{d}{dx}\left(\cos^{-1} x\right)=-\frac{1}{\sqrt{1-x^2}}$;

$\frac{d}{dx}\left(\tan^{-1} x\right)=\frac{1}{1+x^2}$;

$\frac{d}{dx}\left(\cot^{-1} x\right)=-\frac{1}{1+x^2}$;

$\frac{d}{dx}\left(\sec^{-1} x\right)=\frac{1}{x\sqrt{x^2-1}}$;

$\frac{d}{dx}\left(\operatorname{cosec}^{-1} x\right)=-\frac{1}{x\sqrt{x^2-1}}$;

$\frac{d}{dx}(u\pm v)=\frac{d}{dx}u\pm\frac{d}{dx}v$; [‡hLv‡b $u,v-x$ Gi dvskb]

$\frac{d}{dx}(uv)=u\frac{d}{dx}v+v\frac{d}{dx}u$; $\frac{d}{dx}\left(\frac{u}{v}\right)=\frac{v\frac{d}{dx}u-u\frac{d}{dx}v}{v^2}$

eµ‡iLvi ¯úk‡Ki mgxKiY, $y-y_1=\frac{dy}{dx}(x-x_1)$;

$$(x-x_1)+\frac{dy}{dx}(y-y_1)=0$$

$\int x^n dx=\frac{x^{n+1}}{n+1}$; $\int (ax+b)^n dx=\frac{(ax+b)^{n+1}}{a(n+1)}$

$\int e^x dx=e^x$; $\int e^{mx}dx=\frac{e^{mx}}{m}$;

$\int a^x dx=\frac{a^x}{\ln a}$; $\int a^{mx}dx=\frac{a^x}{m\ln a}$

$\int\frac{1}{x}dx=\ln x$; $\int\frac{1}{ax+b}dx=\frac{\ln(ax+b)}{a}$

$\int\cos x\,dx=\sin x$; $\int\cos(ax+b)dx=\frac{\sin(ax+b)}{a}$;

$\int\sin x\,dx=-\cos x$; $\int\sin(ax+b)dx=-\frac{\cos(ax+b)}{a}$;

$\int\sec^2 x\,dx=\tan x$; $\int\sec^2(ax+b)dx=\frac{\tan(ax+b)}{a}$;

$\int\operatorname{cosec}^2 x\,dx=-\cot x$; $\int\operatorname{cosec}^2(ax+b)dx=\frac{-\cot(ax+b)}{a}$

$\int\sec x\tan x\,dx=\sec x$;

$\int\operatorname{cosec} x\cot x\,dx=-\operatorname{cosec} x$;

$\int\tan x\,dx=\ln\sec x$; $\int\cot x\,dx=\ln\sin x$;

$\int\operatorname{cosec} x\,dx=\ln\left|\tan\frac{x}{2}\right|$;

$\int\sec x\,dx=\ln\left|\tan\left(\frac{\pi}{2}+\frac{x}{2}\right)\right|=\ln\left|\sec x+\tan x\right|$

$\int\frac{dx}{\sqrt{a^2-x^2}}=\sin^{-1}\frac{x}{a}$; $\int\frac{dx}{\sqrt{1-x^2}}=\sin^{-1}x$;

$\int\frac{dx}{a^2+x^2}=\frac{1}{a}\tan^{-1}\frac{x}{a}$; $\int\frac{dx}{1+x^2}=\tan^{-1}x$;

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

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

$\int\frac{f'(x)}{f(x)}dx=\ln\left|f(x)\right|$ [A_vr †hvR¨ ivwkwUi je, n‡i i AšÍiK n‡j, Zvi †hvMR n‡ii j‡bi cig gvb n‡e|]

$\int(uv)dx=u\int v\,dx-\int\left(\frac{du}{dx}\int v\,dx\right)dx$ [A_vr `BwU dvsk‡bi ¸Yd‡ji †hvMR = 1g dvskb × 2q dvsk‡bi †hvMR-(1g dvsk‡bi AšÍiK mnM × 2q dvsk‡bi †hvMR)Gi †hvMR] [we.`.- †h mKj dvsk‡bi †hvMR wbYq Kiv hvq bv ‡m mKj dvskb‡K c_g dvskb ai‡Z n‡e|]

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