

Formula: 01. $\int x^n dx = \frac{x^{n+1}}{n+1} + c$

03. $\int a^x dx = \frac{a^x}{\log_e a}$

05. $\int \sin x dx = -\cos x + c$

07. $\int \operatorname{cosec}^2 x dx = -\cot x + c$

09. $\int \cot x \operatorname{cosec} x dx = -\operatorname{cosec} x + c$

11. $\int \frac{dx}{a^2 - (mx)^2} = \frac{1}{2am} \log \frac{a + mx}{a - mx} + c$

13. $\int \frac{dx}{\sqrt{a^2 - x^2}} = \sin^{-1} \frac{x}{a} + c$

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

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

04. $\int \cos x dx = \sin x + c$

06. $\int \sec^2 x dx = \tan x + c$

08. $\int \sec x \tan x dx = \sec x + c$

10. $\int \frac{dx}{\sqrt{x^2 \pm a^2}} = \log \left[x + \sqrt{x^2 \pm a^2} \right] + c$

12. $\int \frac{dx}{(mx)^2 - a^2} = \frac{1}{2am} \log \frac{mx - a}{mx + a}$

14. $\int \frac{dx}{\sqrt{a^2 - (mx)^2}} = \frac{1}{m} \sin^{-1} \frac{mx}{a} + c$

16. $\int \frac{dx}{a^2 + (mx)^2} = \frac{1}{am} \tan^{-1} \frac{mx}{a} + c$

Formula: 1. $\frac{d}{dx}(c) = 0$

4. $\frac{d}{dx}(a^x) = a^x \ln a$

7. $\frac{d}{dx}(\sin x) = \cos x$

10. $\frac{d}{dx}(\cot x) = -\operatorname{cosec}^2 x$

13. $\frac{d}{dx}(\sin^{-1} x) = \frac{1}{\sqrt{1-x^2}}$

16. $\frac{d}{dx}(\cot^{-1} x) = \frac{-1}{1+x^2}$

19. $\frac{d}{dx}(u.v) = u \frac{dv}{dx} + v \frac{du}{dx}$

2. $\frac{d}{dx}(x^n) = nx^{n-1}$

5. $\frac{d}{dx}(\ln x) = \frac{1}{x}$

8. $\frac{d}{dx}(\cos x) = -\sin x$

11. $\frac{d}{dx}(\sec x) = \sec x \tan x$

14. $\frac{d}{dx}(\cos^{-1} x) = -\frac{1}{\sqrt{1-x^2}}$

17. $\frac{d}{dx}(\sec^{-1} x) = \frac{1}{x\sqrt{x^2-1}}$

20. $\frac{d}{dx}\left(\frac{u}{v}\right) = \frac{v \frac{d}{dx}(u) - u \frac{d}{dx}(v)}{v^2}$

3. $\frac{d}{dx}(e^x) = e^x$

6. $\frac{d}{dx}(\log_a x) = \frac{1}{x} \log_a e$

9. $\frac{d}{dx}(\tan x) = \sec^2 x$

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

15. $\frac{d}{dx}(\tan^{-1} x) = \frac{1}{1+x^2}$

18. $\frac{d}{dx}(\operatorname{cosec}^{-1} x) = -\frac{1}{x\sqrt{x^2-1}}$

যেবে $\sin, \cos, \tan, \cot, \operatorname{cosec}, \sec$, এগুলোকে অন্তরীকরণের সময় যেগুলোর প্রথম অক্ষর C তাদের সামনে (-) চিহ্ন হয়।