Integration for WBJEE, IIT, KIIT and AIEEE and other competitive entrance exams

1. $\int \frac{\sin x}{\sqrt{1+\sin x}}dx$

2. $\int \frac{1+\sin x}{\sin x(1+\cos x)}dx$

3. $\int \frac{1-\tan x}{1+\tan x}dx$

4. $\int \sin^{-1}\sqrt{\frac{x}{a+x}}dx$

5. $\int \frac{x^2+1}{\sqrt{1-x^2}}dx$

6. $\int \left\{\frac{1}{\log x}-\frac{1}{(\log x)^2}\right\}dx$

7. $\int \frac{1+x^2}{1-x^2}\frac{dx}{\sqrt{1+x^4}}$

8. $\int \frac{1+x^2}{1-x^2}\frac{dx}{\sqrt{1+x^2+x^4}}$

9. $\int \frac{1+\sqrt{x}}{1+\sqrt[4]{x}}dx$

10. $\int \frac{x^2}{\left(x\sin x+\cos x\right)^2}dx$

11. $\int \frac{dx}{(1+\sqrt{x})^{3/2}}$

12. $\int \sqrt{x(x^3+a^3)}dx$

13. $\int \frac{(x+1)dx}{x(1+xe^x)^2}$

14. $\int \frac{(x^2-1)dx}{x\sqrt{x^4+3x^2+1}}$

15. $\int \frac{(\sin x-\cos x)dx}{(\sin x+\cos x)\sqrt{\sin^2 x\cos^2 x+\sin x\cos x}}$

16. $\int \frac{e^x(x^3+x+1)dx}{(1+x^2)^{3/2}}$

17. $\int \frac{1-x^2}{1+x^2}\frac{dx}{\sqrt{1+x^2+x^4}}$

18. $\int \left[\log(\log x)+\frac{1}{(\log x)^2}\right]dx$

19. $\int \frac{xdx}{\sqrt{x+1}+\sqrt[3]{x+1}}$

20. $\int \frac{\cos 2x}{\sin^4 x+\cos^4 x}dx$

21. $\int \frac{\sqrt{\tan x}-\sqrt{\cot x}}{1+3\sin 2x}dx$

22. $\int \frac{dx}{\sqrt{x}+\sqrt{2-x}}$

23. $\int \frac{\sin x+\cos x}{\sin^4 x+\cos^4 x}dx$

24. $\int \sqrt{a^{1/3}+x^{1/3}}dx$

25. $\int \sqrt{\frac{1-x}{1+x}}\frac{dx}{x}$

26. $\int \sqrt{\frac{x+2}{3+2x}}\frac{dx}{x}$

27. $\int \sqrt{\frac{x^2+1}{x^2-x^4}}dx$

28. $\int \frac{(1+x\cos a)dx}{(1+2x\cos a+x^2)^{3/2}}$

29. $\int \left(x+\sqrt{1+x^2}\right)^n dx$

30. $\int \frac{\sqrt{1+x+x^2}}{x+1}dx$

31. $\int \frac{dx}{\sin x+\sin 2x}$

32. $\int \frac{dx}{(2\sin x+\cos x)^2}$

33. $\int \frac{dx}{\sin x(a+b\cos x)}$

34. $\int \frac{4e^x+6e^{-x}}{9e^x-4e^{-x}}dx$

35. $\int \frac{d\theta}{\theta+\sqrt{x^2+\sqrt{x^2+\sqrt{x^2+1}}}}$

36. $\int \frac{x^n}{(\log x)^m}dx=-\frac{x^{n+1}}{(m-1)(\log x)^{m-1}}+\frac{n+1}{m-1}\int \frac{x^n}{(\log x)^{m-1}}dx$

Author-Vinod Singh
Education : M.Sc Pure Mathematics'09,(Calcutta University) First Class.
B.Sc Mathematics Honours'07,(St. Xavier's kolkata) First Class.
Special interest in Algebra, Algebraic and Analytical Number Theory,
Cryptography, Algebraic Topology and Geometry.
http://kolkatamaths.yolasite.com
http://facebook.com/kolkatamaths
Best of luck!
☺
Call us on +91-9038126497
Mail-maths.kolkata@gmail.com/maths.vinu@gmail.com