

ASSIGNMENT : Indefinite Integration

1. $\int \sin^{-1}\sqrt{x} - \cos^{-1}\sqrt{x} dx$

2. $\int \frac{\cos^2 x}{3\sin^2 x + \cos^2 x} dx$

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

4. $\int \frac{\sin x - \cos x}{\sqrt{9 + 16 \sin 2x}} dx$

5. $\int \log(\log x) + \frac{1}{(\log x)^2} dx$

6. $\int \sqrt{\tan x} dx$

7. $\int \frac{x^2 - 3}{x^4 + 9} dx$

8. $\int \sqrt{\tan x} + \sqrt{\cot x} dx$

9. $\int \frac{1}{\sqrt{\sin^3 x \sin(x+\alpha)}} dx$

10. $\int \frac{x^2}{(x^2+4)(x^2+9)} dx$

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

12. $\int \frac{x^2}{x^4 + x^2 + 1} dx$

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

14. $\int \frac{x^3}{x^4 + 3x^2 + 2} dx$

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

16. $\int \frac{\sqrt{x}}{\sqrt{a^3 - x^3}} dx$

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

18. $\int \frac{\sin(x-a)}{\cos(x-b)} dx$

19. $\int \frac{1}{\sin x + \sin 2x} dx$

20. $\int \frac{1}{\cos^4 x + \sin^4 x} dx$

21. $\int \frac{1}{x^4 + 1} dx$

22. $\int \frac{1}{x(x^3+8)} dx$

23. $\int \frac{2 \sin x + \cos x}{3 \cos x - 4 \sin x} dx$

24. $\int e^{2x} \cos x dx$

25. $\int \frac{\log x}{(x+1)^2} dx$

26. $\int \sqrt{\frac{a-x}{a+x}} dx$

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

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

29. $\int \frac{1}{x^3+1} dx$

30. $\int \frac{1}{a^2 \sin^2 x + b^2 \cos^2 x} dx$