

Evaluate the following integrals :

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| 1. $\int \frac{1}{\sqrt{x} + \sqrt{x+1}} dx$ | 2. $\int \frac{1-x^4}{1-x} dx$ | 3. $\int \frac{x+2}{(x+1)^3} dx$ |
| 4. $\int \frac{8x+13}{\sqrt{4x+7}} dx$ | 5. $\int \frac{1+x+x^2}{x^2(1+x)} dx$ | 6. $\int \frac{(2^x+3^x)^2}{6^x} dx$ |
| 7. $\int \frac{\sin x}{1+\sin x} dx$ | 8. $\int \frac{x^4+x^2-1}{x^2+1} dx$ | 9. $\int \sec^2 x \cos^2 2x dx$ |
| 10. $\int \operatorname{cosec}^2 x \cos^2 2x dx$ | 11. $\int \sin^4 2x dx$ | 12. $\int \cos^3 3x dx$ |
| 13. $\int \frac{\sin 2x}{a^2 + b^2 \sin^2 x} dx$ | 14. $\int \frac{1}{(\sin^{-1} x) \sqrt{1-x^2}} dx$ | 15. $\int \frac{(\sin^{-1} x)^3}{\sqrt{1-x^2}} dx$ |
| 16. $\int \frac{1}{e^x+1} dx$ | 17. $\int \frac{e^x-1}{e^x+1} dx$ | 18. $\int \frac{1}{e^x+e^{-x}} dx$ |
| 19. $\int \frac{\cos^7 x}{\sin x} dx$ | 20. $\int \sin x \sin 2x \sin 3x dx$ | 21. $\int \cos x \cos 2x \cos 3x dx$ |
| 22. $\int \frac{\sin x + \cos x}{\sqrt{\sin 2x}} dx$ | 23. $\int \frac{\sin x - \cos x}{\sqrt{\sin 2x}} dx$ | 24. $\int \frac{1}{\sin(x-a) \sin(x-b)} dx$ |
| 25. $\int \frac{1}{\cos(x-a) \cos(x-b)} dx$ | 26. $\int \frac{\sin x}{\sqrt{1+\sin x}} dx$ | 27. $\int \frac{\sin x}{\cos 2x} dx$ |
| 28. $\int \tan^3 x dx$ | 29. $\int \tan^4 x dx$ | 30. $\int \tan^5 x dx$ |
| 31. $\int \cot^4 x dx$ | 32. $\int \cot^5 x dx$ | 33. $\int \frac{x^2}{(x-1)^3} dx$ |
| 34. $\int x\sqrt{2x+3} dx$ | 35. $\int \frac{x^3}{(1+x^2)^2} dx$ | 36. $\int x \sin^5 x \cos^2 x dx$ |
| 37. $\int \sin^3 x \cos^4 x dx$ | 38. $\int \sin^5 x dx$ | 39. $\int \cos^5 x dx$ |
| 40. $\int \sqrt{\sin x} \cos^3 x dx$ | 41. $\int \frac{\sin 2x}{\sin^4 x + \cos^4 x} dx$ | 42. $\int \frac{1}{\sqrt{x^2-a^2}} dx$ |
| 43. $\int \frac{1}{\sqrt{x^2+a^2}} dx$ | 44. $\int \frac{1}{4x^2+4x+5} dx$ | 45. $\int \frac{1}{x^2+4x-5} dx$ |
| 46. $\int \frac{1}{1-x-4x^2} dx$ | 47. $\int \frac{1}{3x^2+13x-10} dx$ | 48. $\int \frac{\sin x}{\sqrt{\cos^2 x - 2 \cos x - 3}} dx$ |
| 49. $\int \sqrt{\operatorname{cosec} x - 1} dx$ | 50. $\int \frac{1}{\sqrt{3-2x-x^2}} dx$ | 51. $\int \frac{x+1}{x^2+4x+5} dx$ |
| 52. $\int \frac{5x+7}{\sqrt{(x-5)(x-4)}} dx$ | 53. $\int \sqrt{\frac{x+1}{x}} dx$ | 54. $\int \sqrt{\frac{x-1}{x}} dx$ |
| 55. $\int \frac{\sqrt{a}-\sqrt{x}}{1-\sqrt{ax}} dx$ | 56. $\int \frac{1}{(\sin x - 2 \cos)(2 \sin x + \cos x)} dx$ | |

GALAXY TUTORIALS

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57. $\int \frac{1}{4 \sin^2 x + 4 \sin x \cos x + 5 \cos^2 x} dx$ 58. $\int \frac{1}{a + b \tan x} dx$
59. $\int \frac{1}{\sin^2 x + \sin 2x} dx$ 60. $\int \frac{\sin x + 2 \cos x}{2 \sin x + \cos x} dx$ 61. $\int \frac{x^3}{\sqrt{x^8 + 4}} dx$
62. $\int \frac{1}{2 - 3 \sin x} dx$ 63. $\int \frac{\cos x}{\frac{1}{4} - \cos^2 x} dx$ 64. $\int \frac{1}{1 + 2 \cos x} dx$
65. $\int \frac{1}{1 - 2 \sin x} dx$ 66. $\int \frac{1}{\sin x (2 + 3 \cos x)} dx$ 67. $\int \frac{1}{\sin x + \sin 2x} dx$
68. $\int \frac{1}{\sin^4 x + \cos^4 x} dx$ 69. $\int \frac{1}{5 - 4 \sin x} dx$ 70. $\int \sec^4 x dx$
71. $\int \operatorname{cosec}^4 2x dx$ 72. $\int \frac{1 + \sin x}{\sin x (1 + \cos x)} dx$ 73. $\int \frac{1}{2 + \cos x} dx$
74. $\int \sqrt{\frac{a+x}{x}} dx$ 75. $\int \frac{6x+5}{\sqrt{6+x-2x^2}} dx$ 76. $\int \frac{\sin^5 x}{\cos^4 x} dx$
77. $\int \frac{\cos^5 x}{\sin x} dx$ 78. $\int \frac{\sin^6 x}{\cos x} dx$ 79. $\int \frac{\sin^2 x}{\cos^6 x} dx$
80. $\int \sec^6 x dx$ 81. $\int \tan^5 x \sec^3 x dx$ 82. $\int \tan^3 x \sec^4 x dx$
83. $\int \frac{1}{\sec x + \operatorname{cosec} x} dx$ 84. $\int \sqrt{a^2 + x^2} dx$ 85. $\int \sqrt{x^2 - a^2} dx$
86. $\int \sqrt{a^2 - x^2} dx$ 87. $\int \sqrt{3x^2 + 4x + 1} dx$ 88. $\int \sqrt{1 + 2x - 3x^2} dx$
89. $\int x \sqrt{1 + x - x^2} dx$ 90. $\int (2x + 3) \sqrt{4x^2 + 5x + 6} dx$
91. $\int (1 + x^2) \cos 2x dx$ 92. $\int \log_{10} x dx$ 93. $\int \frac{\log (\log x)}{x} dx$
94. $\int x \sec^2 2x dx$ 95. $\int x \sin^3 x dx$ 96. $\int (x + 1)^2 e^x dx$
97. $\int \log (x + \sqrt{x^2 + a^2}) dx$ 98. $\int \frac{\log x}{x^3} dx$ 99. $\int \frac{\log (x - 1)}{x^2} dx$
100. $\int x^3 (\log x)^2 dx$ 101. $\int \frac{1}{x \sqrt{1 + x^x}} dx$ 102. $\int \frac{x^2}{\sqrt{1 - x^2}} dx$
103. $\int \frac{x^5}{\sqrt{1 + x^3}} dx$ 104. $\int \frac{1 + x^2}{\sqrt{1 - x^2}} dx$ 105. $\int x \sqrt{\frac{1-x}{1+x}} dx$
106. $\int \frac{1}{x \sqrt{1 + x^3}} dx$ 107. $\int \frac{\sin x + \cos x}{\sin^4 x + \cos^4 x} dx$ 108. $\int x^2 \tan^{-1} x dx$
109. $\int \tan^{-1} \sqrt{x} dx$ 110. $\int \sin^{-1} \sqrt{x} dx$ 111. $\int \sec^{-1} \sqrt{x} dx$
112. $\int \tan^{-1} \sqrt{\frac{1-x}{1+x}} dx$ 113. $\int \sin^{-1} \sqrt{\frac{x}{a+x}} dx$ 114. $\int \sin^{-1} (3x - 4x^3) dx$

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| 115. $\int (\sin^{-1} x) dx$ | 116. $\int \cos^{-1} (1 - 2x^3) dx$ | 117. $\int \frac{x \sin^{-1} x}{(1 - x^2)^{3/2}} dx$ |
| 118. $\int e^{2x} \left(\frac{1 + \sin 2x}{1 + \cos 2x} \right) dx$ | 119. $\int \frac{\sqrt{1 - \sin x}}{1 + \cos x e^{-x/2}} dx$ | 120. $\int e^x \frac{(1 - x)^2}{(1 + x)^2} dx$ |
| 121. $\int \frac{e^{m \tan^{-1} x}}{(1 + x^2)^{3/2}} dx$ | 122. $\int \frac{x^2}{(x - 1)^3 (x + 1)} dx$ | 123. $\int \frac{x}{x^3 - 1} dx$ |
| 124. $\int \frac{1}{1 + x + x^2 + x^3} dx$ | 125. $\int \frac{1}{(x^2 + 2)(x^2 + 5)} dx$ | 126. $\int \frac{x^2 - 2}{x^5 - x} dx$ |
| 127. $\int \frac{\sqrt{1 - \sqrt{x}}}{1 + \sqrt{x}} dx$ | 128. $\int \frac{x^2 + x + 1}{(x + 1)^2 (x + 2)} dx$ | 129. $\int \frac{\sin 4x - 2}{1 - \cos 4x} e^{2x} dx$ |
| 130. $\int \left\{ \log (\log x) + \frac{1}{(\log x)^2} \right\} dx$ | 131. $\int \frac{\sin x + \cos x}{9 + 16 \sin 2x} dx$ | 132. $\int \sqrt{\frac{\sin (x - a)}{\sin (x + a)}} dx$ |
| 133. $\int e^x \frac{x^3 - x + 2}{(x^2 + 1)^2} dx$ | 134. $\int \frac{x^2}{(x \sin x + \cos x)^2} dx$ | |
| 135. $\int \frac{\sqrt{\cos 2x}}{\sin x} dx$ | 136. $\int \frac{1}{\sin x + \sec x} dx$ | 137. $\int \frac{\sin x}{\sin 4x} dx$ |
| 138. $\int \frac{1}{x^4 + x^2 + 1} dx$ | 139. $\int \sqrt{e^x - 1} dx$ | 140. $\int \frac{\cot x + \cot^3 x}{1 + \cot^{3x}} dx$ |

MATH (12TH)

*	EKTA	95	GREEN FIELD DELHI
*	MANISH (SCHOOL TOPPER)	95	AMPS
*	HIMANI (SCHOOL TOPPER)	95	AMPS
*	NIKHIL (SCHOOL TOPPER)	95	NOTRE DAME
*	MONIKA (SCHOOL TOPPER)	91	DAV 37
*	ASHWARYA	91	RYAN
*	SUNIL	91	MVN
*	ROSHAN JHA	90	DAV 37
*	BHUPENDRA	90	G.B.S.S.S
*	NAMITA	86	AMPS
*	ADITYA	85	VMPS
*	VIPUL	84	K.V.(N.T.P.C.)
*	SHRUTI	84	DAV 37
*	DHARMENDRA	83	DAV 37
*	MANPREET	83	DAV 37
*	NEERAJ	83	AMPS
*	HIMANSHI	82	DAV 37
*	ANKIT SARASHWAT	82	DAV K. HILL
*	RAUNK	79	SRI NAGAR(J&K)
*	LIZY	78	DAV 37
*	HIMANSHU	78	DAV 37
*	AJAY	78	QUETA DAV
*	SWATANTRA	76	VMPS
*	PRINCE	75	SBM
*	ANKIT HASIA	74	AMPS
*	CHETAN	74	DAV 37
*	PRABHAT	73	DAV
*	LALIT	73	AMPS
*	PRIYANKA	72	DAV 37
*	DIKANSHA	72	
*	ANU	71	NOTRE DAME

CHEMISTRY (12TH)

*	ASHWARYA (SCHOOL TOPPER)	95	RYAN
*	SWATANTRA (SCHOOL TOPPER)	95	V.M.P.S
*	MONIKA	94	DAV 37
*	SHRUTI JHA	89	DAV 37
*	LIZY	85	DAV 37
*	EKTA	83	GREEN FIELD
*	ROSHAN JHA	79	DAV 37
*	VIPUL	77	K.V. (N.T.P.C.)
*	AASTHA	76	DAV 14
*	BHARAT SINDHU	72	
*	RAUNAK	71	SRI NAGAR(J&K)
*	ANKIT SARASHWAT	71	DAV K. HILL
*	ARADHNA	70	DAV 37

PHYSICS (12TH)

*	MANPREET	88	DAV 37
*	ASHWARYA	87	RYAN
*	LIZY	80	DAV 37
*	SWATARTRA	78	VMPS
*	PRABHAT	75	DAV
*	VIPUL	74	K.V. (N.T.P.C)
*	RAUNK	74	SRI NAGAR(J&K)
*	HIMANSHU	70	DAV 37

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Answers : -

1. $\frac{2}{3}[(x + 1)^{3/2} - x^{3/2}] + C$
2. $x + \frac{x^2}{2} + \frac{x^3}{3} + \frac{x^4}{4} + C$
3. $-\frac{1}{x+1} - \frac{1}{2(x+1)^2} + C$
4. $\frac{1}{3}(4x + 7)^{3/2} - \frac{1}{2}\sqrt{4x + 7} + C$
5. $\frac{-1}{x} + \log |x + 1| + C$
6. $\left(\frac{2}{3}\right)^x \cdot \frac{1}{\log\left(\frac{2}{3}\right)} + \left(\frac{3}{2}\right)^x \cdot \frac{1}{\log\left(\frac{3}{2}\right)} + 2x + C$
7. $x - \tan x + \sec x + C$
8. $\frac{x^3}{3} - \tan^{-1} x + C$