Class XII   Definite Integrals

1. $\displaystyle\int_0^\infty \frac{1}{(x^2+a^2)(x^2+b^2)}\,dx$	2. $\displaystyle\int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \cos 2x \log 2x\,dx$	3. $\displaystyle\int_0^{2\pi} e^x \sin(\frac{\pi}{4}+\frac{x}{2})\,dx$
4. $\displaystyle\int_0^{\frac{\pi}{2}} \sqrt{\tan x}+\sqrt{\cot x}\;dx$	5. $\displaystyle\int_0^{\frac{\pi}{2}} \frac{1}{4\sin^2 x+5\cos^2 x}\,dx$	6. $\displaystyle\int_0^1 x\sqrt{\frac{1-x^2}{1+x^2}}\;dx$
7. $\displaystyle\int_0^2 |x^2+2x-3|\,dx$	8. $\displaystyle\int_0^3 [x]\,dx$	9. $\displaystyle\int_0^2 [x^2]\,dx$
10. $\displaystyle\int_0^{\frac{\pi}{2}} \log(\tan x)\,dx$	11. $\displaystyle\int_0^{\frac{\pi}{4}} \log(1+\tan x)\,dx$	12. $\displaystyle\int_0^1 x(1-x)^n\;dx$
13. $\displaystyle\int_0^4 \frac{1}{x+\sqrt{x}}\,dx$	14. $\displaystyle\int_0^1 |5x-3|\,dx$	15. $\displaystyle\int_1^2 \frac{\sqrt{x}}{\sqrt{3-x}+\sqrt{x}}\,dx$
16. $\displaystyle\int_0^\pi \frac{x}{1+\sin x}\,dx$	17. $\displaystyle\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \cos x \log\left(\frac{1+x}{1-x}\right)dx$	18. $\displaystyle\int_0^{\frac{\pi}{2}} \frac{\sin x}{1+\cos^2 x}\,dx$
19. $\displaystyle\int_{-\frac{\pi}{4}}^{\frac{\pi}{4}} x^3\sin^4 x\,dx$	20. $\displaystyle\int_{-1}^1 e^{|x|}\,dx$	21. $\displaystyle\int_0^\pi \frac{x}{a^2\cos^2 x+b^2\sin^2 x}\,dx$
22. $\displaystyle\int_0^{\frac{\pi}{2}} \sin 2x \log\tan x\;dx$	23. $\displaystyle\int_2^5 |x-3|\;dx$	24. $\displaystyle\int_0^1 \frac{\log x}{\sqrt{1-x^2}}dx$
25. $\displaystyle\int_0^{\frac{\pi}{2}} \frac{\sin^2 x}{\sin x+\cos x}\,dx$	26. $\displaystyle\int_0^\pi \frac{x\sin x}{1+\cos^2 x}\,dx$	27. $\displaystyle\int_0^\pi \frac{x}{a^2\cos^2 x+b^2\sin^2 x}\,dx$
28. $\displaystyle\int_0^{\frac{\pi}{2}} \frac{x}{\cos x+\sin x}\,dx$	29. $\displaystyle\int_0^{\frac{\pi}{2}} \frac{\cos x}{1+\cos x+\sin x}\,dx$	30. $\displaystyle\int_0^\pi \frac{e^{\cos x}}{e^{\cos x}+e^{-\cos x}}\,dx$
31. $\displaystyle\int_0^1 \frac{\tan^{-1}x}{1+x^2}\,dx$	32. $\displaystyle\int_{-\frac{\pi}{4}}^{\frac{\pi}{4}} x^3\sin^4 x\,dx$	33. $\displaystyle\int_0^\pi \left(\sin^2\frac{x}{2}-\cos^2\frac{x}{2}\right)dx$
34. $\displaystyle\int_2^4 [x]\,dx$	35.	36.
37. $\displaystyle\int_0^\infty e^{-x}\,dx$	38. $\displaystyle\int_0^a 3x^2\,dx$	39. $\displaystyle\int_0^2 |x^2+2x-3|\,dx$
40. $\displaystyle\int_1^2 \log x\,dx$	41. $\displaystyle\int_0^\pi \frac{\sin 2x}{\sin x}$	42. $\displaystyle\int_0^{\frac{\pi}{2}} \frac{\sin x-\cos x}{1+\sin x\cos x}\,dx$

43. $\displaystyle\int_0^{\frac{\pi}{2}} \frac{\sin^5 x}{\sin^5 x + \cos^5 x} dx$	44. $\displaystyle\int_0^{\pi} \frac{x\sin x}{1+\cos^2 x} dx$	45. $\displaystyle\int_0^{\pi} \frac{x}{1+\sin x} dx$
46. $\displaystyle\int_0^{\pi} \frac{1}{a^2\cos^2 x + b^2\sin^2 x} dx$	47. $\displaystyle\int_0^{\pi} \frac{x\tan x}{\sec x \cos ecx} dx$	48. $\displaystyle\int_0^{\frac{\pi}{2}} \log\sin x \, dx$
49. $\displaystyle\int_0^{\frac{\pi}{4}} \log(1+\tan\theta)d\theta$	50. $\displaystyle\int_{-1}^{1} \log\frac{2+x}{2-x} dx$	51. $\displaystyle\int_0^{\frac{\pi}{2}} (\sqrt{\tan x} + \sqrt{\cot x})dx$
52. $\displaystyle\int_0^{1} \frac{\log x}{1+x^2} dx$	53. $\displaystyle\int_0^{\pi} \frac{x}{4-\cos^2 x} dx$	54. $\displaystyle\int_1^{4} |x-1|+|x-2|+|x-4|)dx$
55. $\displaystyle\int_{-1}^{1/2} \left|x\cos\pi x\right| \, \mathbf{dx}$	56. $\displaystyle\int_0^{\pi} \frac{e^{\cos x}}{e^{\cos x}+e^{-\cos x}} \, \mathbf{dx}$	57. $\displaystyle\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \frac{\sin x + \cos x}{\sqrt{\sin 2x}} dx$
58. $\displaystyle\int_0^{\pi} \frac{x}{1+\sin x} dx$	59. $\displaystyle\int_0^{\pi} \frac{x\sin x}{1+\cos^2 x} dx$	60. $\displaystyle\int_{-1}^{2} \left|x^3 - x\right|dx$
61. $\displaystyle\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \frac{dx}{1+\sqrt{\tan x}} dx$	62. $\displaystyle\int_0^{\frac{\pi}{2}} (2\log\sin x - \log\sin 2x)dx$	63. $\displaystyle\int_0^{\frac{\pi}{2}} (\log\frac{4+3\sin x}{4+3\cos x})dx$
64. $\displaystyle\int_0^{1} x(1-x)^n \, dx$	65. $\displaystyle\int_0^{1} |5x-3| \, dx$	66. $\displaystyle\int_0^{\pi} \frac{x\tan x}{\sec x \tan x} dx = \frac{\pi^2}{4}$
67. $\displaystyle\int_0^{\frac{\pi}{2}} \frac{\sin 2\theta}{\sin^4\theta + \cos^4\theta} d\theta$	68. $\displaystyle\int_{-\frac{\pi}{4}}^{\frac{\pi}{4}} x^3\sin^4 x \, dx$	69. $\displaystyle\int_{-1}^{\frac{3}{2}} |x\sin(\pi x)|dx$
70. $\displaystyle\int_0^{\pi} \frac{x\tan x}{\sec x + \tan x} dx$	71. $\displaystyle\int_1^{2} \frac{\sqrt{x}}{\sqrt{3-x}+\sqrt{x}} \, dx$	72. $\displaystyle\int_0^{\frac{\pi}{2}} \frac{\sin x - \cos x}{1+\sin x\cos x} dx$
73. $\displaystyle\int_0^{\frac{\pi}{4}} \frac{\sin x\cos x}{\cos^4 x + \sin^4 x} dx$	74. $\displaystyle\int_0^{1} \cot^{-1}(1-x+x^2)dx = $ $\dfrac{\pi}{2} - \log 2$	75. $\displaystyle\int_0^{1} x\sqrt{\frac{1-x^2}{1+x^2}} \, dx$
76. $\displaystyle\int_1^{2} \frac{\sqrt{x}}{\sqrt{3-x}+\sqrt{x}} \, dx$	77. $\displaystyle\int_0^{1} \frac{2x}{1+x^2} dx$	78. $\displaystyle\int_0^{1} x(1-x)^n \, dx$

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79. $\displaystyle\int_{2}^{8}\frac{\sqrt[3]{x+1}}{\sqrt[3]{x+1}+\sqrt[3]{11-x}}\,dx$	80. $\displaystyle\int_{0}^{1}|5x-3|\,dx$	81. $\displaystyle\int_{-1}^{2}\left(|x+1|+|x|+|x-1|\right)dx$
82. $\displaystyle\int_{\frac{\pi}{4}}^{\frac{\pi}{2}}\cos 2x\log 2x\,dx$	83. $\displaystyle\int_{0}^{\frac{\pi}{2}}\log(\tan x)\,dx$	84. $\displaystyle\int_{0}^{\frac{\pi}{4}}\log(1+\tan x)\,dx.$
85. $\displaystyle\int_{0}^{\infty}\frac{1}{(x^2+a^2)(x^2+b^2)}\,dx$	86. $\displaystyle\int_{0}^{4}\frac{1}{x+\sqrt{x}}\,dx$	
87. $\displaystyle\int_{0}^{\frac{\pi}{2}}\sin 2x\log\tan x\,dx$	88. $\displaystyle\int_{0}^{\pi/2}\log\left[\frac{3+5\cos x}{3+5\sin x}\right]dx$	89. $\displaystyle\int_{0}^{\pi}\log(1+\cos x)\,dx$
90. $\displaystyle\int_{0}^{1}\frac{\log(1+x)}{1+x^2}\,dx$	91. $\displaystyle\int_{0}^{\frac{\pi}{2}}(2\log\sin x-\log\sin 2x)\,dx$	92. $\displaystyle\int_{0}^{2\pi}e^{x}\sin(\frac{\pi}{4}+\frac{x}{2})\,dx$
93. $\displaystyle\int_{\frac{\pi}{4}}^{\frac{\pi}{2}}e^{x}(\log\sin x+\cot x)\,dx$	94. $\displaystyle\int_{0}^{\frac{\pi}{2}}\sqrt{\tan x}+\sqrt{\cot x}\,dx$	95. $\displaystyle\int_{0}^{\frac{\pi}{2}}\frac{1}{4\sin^2 x+5\cos^2 x}\,dx$
96. $\displaystyle\int_{0}^{\frac{\pi}{2}}\frac{\sin^2 x}{\sin x+\cos x}\,dx$	97. $\displaystyle\int_{0}^{\pi}\frac{x\sin x}{1+\cos^2 x}\,dx$	98. $\displaystyle\int_{0}^{\pi}\frac{x}{a^2\cos^2 x+b^2\sin^2 x}\,dx$
99. $\displaystyle\int_{0}^{\pi}\frac{x}{1+\sin x}\,dx$	100. $\displaystyle\int_{0}^{\frac{\pi}{2}}\frac{x}{\cos x+\sin x}\,dx$	101. $\displaystyle\int_{0}^{\frac{\pi}{2}}\frac{\cos x}{1+\cos x+\sin x}\,dx$
102. $\displaystyle\int_{0}^{\pi}\frac{e^{\cos x}}{e^{\cos x}+e^{-\cos x}}\,dx$	103. $\displaystyle\int_{0}^{1}e^{2-3x}\,dx$ as limit of sum	104. $\displaystyle\int_{1}^{3}\left(x^2+5x+1\right)\,dx$ as limit of sum
105. $\displaystyle\int_{0}^{2}(x^2+3)\,dx.$	106. $\displaystyle\int_{1}^{3}\left(2x^2+5x\right)dx.$	107. $\displaystyle\int_{1}^{4}(x^2-x)\,dx$
108. $\displaystyle\int_{0}^{4}(x+e^{2x})\,dx$	109. $\displaystyle\int_{1}^{2}\left(x^2+2x-3\right)\,dx$	110. $\displaystyle\int_{1}^{2}(3x^2-1)\,dx$ as limit of sum
111. $\displaystyle\int_{1}^{4}\left(e^{-2x+31}\right)dx$ as limit of sum	112. $\displaystyle\int_{0}^{1}\cot^{-1}(1-x+x^2)\,dx$	113. $\displaystyle\int_{0}^{\frac{1}{2}}|x\cos\pi x|\,dx$
114. $\displaystyle\int_{0}^{\pi}\frac{x\sin x}{1+\sin x}\,dx$	115. $\displaystyle\int_{0}^{\frac{\pi}{2}}\frac{x}{\sin x+\cos x}\,dx$	116. $\displaystyle\int_{0}^{\pi/2}\frac{x+\sin x}{1+\cos x}\,dx$
117. $\displaystyle\int_{-\pi/2}^{\pi/2}\sin^5 x\cos^4 x\,dx$	118. $\displaystyle\int_{-\pi}^{\pi}\frac{\sin 2x}{a-b\cos x}\,dx$	119. $\displaystyle\int_{0}^{\pi/2}\log\left[\frac{3+5\cos x}{3+5\sin x}\right]dx$
120. $\displaystyle\int_{0}^{1}\sin^{-1}\left(\frac{2x}{1+x^2}\right)dx$	121. $\displaystyle\int_{0}^{1}\tan^{-1}\left(\frac{2x-1}{1+x-x^2}\right)dx$	122. $\displaystyle\int_{0}^{\frac{\pi}{2}}\frac{x\sin x\cos x}{\cos^4 x+\sin^4 x}\,dx=\frac{\pi^2}{16}$

123. $\displaystyle\int_0^{\frac{\pi}{2}} \sqrt{\sin\phi}\,\cos^5\phi\,d\phi$	124. $\displaystyle\int_0^{\frac{\pi}{2}} (\sin x - \cos x)\log(\sin x + \cos x)\,dx$	125. $\displaystyle\int_{\pi/6}^{\pi/3} \frac{dx}{1+\sqrt{\tan x}}$
126. $\displaystyle\int_0^{\frac{\pi}{2}} \sqrt{\cos\theta}\,\sin^3\theta\,d\theta.$	127. $\displaystyle\int_0^{\frac{\pi}{2}} \frac{\sqrt{\tan x}}{1+\sqrt{\tan x}}\,dx$	128. $\displaystyle\int_{-\pi/4}^{\pi/4} \frac{x+\dfrac{\pi}{4}}{2-\cos 2x}\,dx$
129. $\displaystyle\int_0^{\frac{\pi}{2}} \sin 2x \log(\tan x)\,dx$	130. $\displaystyle\int_{\frac{\pi}{3}}^{\frac{\pi}{4}} (\tan x + \cot x)^2\,dx = \frac{2}{\sqrt{3}}$	131. $\displaystyle\int_0^{\frac{\pi}{2}} (\cos 3x \cos 2x)\,dx = \frac{3}{5}$
132. $\displaystyle\int_{\frac{\pi}{2}}^{\pi} \frac{1-\sin x}{1-\cos x}\,dx = 1\text{-log2}$	133. $\displaystyle\int_0^{\frac{\pi}{4}} (\sin 3x \cos 2x)\,dx$	134. $\displaystyle\int_3^4 \frac{dx}{\sqrt{x^2+4}} = \log\frac{4+\sqrt{20}}{3+\sqrt{13}}$
135. $\displaystyle\int_3^5 \frac{x^2\,dx}{x^2-4} = 2+\log(15/7)$	136. $\displaystyle\int_0^a \frac{dx}{ax+a^2-x^2} = \frac{1}{\sqrt{5}a}\log\left(\frac{3+\sqrt{5}}{3-\sqrt{5}}\right)$	137. $\displaystyle\int_{\frac{1}{4}}^{\frac{1}{2}} \frac{1}{\sqrt{x-x^2}}\,dx = \frac{\pi}{6}$
138. $\displaystyle\int_0^a \frac{dx}{\sqrt{ax-x^2}} = \pi$	139. If $\displaystyle\int_0^k \frac{dx}{2+8x^2} = \frac{\pi}{16}$ prove that $k = \frac{1}{2}$	140. $\displaystyle\int_2^4 \frac{x\,dx}{x^2+1} = \frac{1}{2}\log\frac{17}{5}$
141. $\displaystyle\int_0^1 \frac{x^5\,dx}{1+x^6} = \frac{1}{6}\log 2$	142. $\displaystyle\int_0^1 \frac{x\,dx}{1+x^4} = \frac{\pi}{8}$	143. $\displaystyle\int_0^1 \frac{e^x\,dx}{1+e^{2x}} = \tan^{-1}e - \frac{\pi}{4}$
144. $\displaystyle\int_0^{\frac{\pi}{3}} \frac{\sec x \tan x\,dx}{1+\sec^2 x} = \tan^{-1}2 - \frac{\pi}{4}$	145. $\displaystyle\int_0^{\frac{\pi}{2}} \frac{\sin x \cos x\,dx}{1+\sin^4 x} = \frac{\pi}{8}$	146. $\displaystyle\int_0^{\frac{\pi}{2}} \frac{\sin 2x\,dx}{\sin^4 x + \cos^4 x} = \frac{\pi}{2}$
147. $\displaystyle\int_0^{\frac{\pi}{2}} \frac{dx}{4\sin^2 x + 5\cos^4 x} = \frac{\pi}{4\sqrt{5}}$	148. $\displaystyle\int_0^1 \frac{(\tan^{-1}x)^2\,dx}{1+x^2} = \frac{\pi}{4\sqrt{5}}$	149. $\displaystyle\int_0^{\frac{\pi}{2}} \sqrt{\sin x}\,\cos^5 x\,dx = \frac{64}{231}$

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150. $\int_0^1 \dfrac{\sqrt{2+x}}{\sqrt{2-x}}dx = \pi + 2$	151. $\int_0^1 x\sqrt{\dfrac{1-x^2}{1+x^2}}dx = \dfrac{\pi}{4} - \dfrac{1}{2}$	152. $\int_1^2 \dfrac{x+3}{x(x+2)}dx =$ $\dfrac{1}{2}\log\dfrac{8}{3} + \log\dfrac{3}{2}$
153. $\int_0^{\frac{\pi}{2}} \dfrac{\sin 2x}{\cos^2 x + 3\cos x + 2}dx$ $= 3\log\dfrac{4}{3} - \log 3$	154. $\int_0^{\frac{\pi}{2}} \dfrac{dx}{3 + 2\cos x} = \dfrac{2}{\sqrt 5}\tan^{-1}\left(\dfrac{1}{\sqrt 5}\right)$	155. $\int_0^{\frac{\pi}{2}} \dfrac{dx}{5 + 4\sin x} =$ $\dfrac{2}{3}\tan^{-1}\left(\dfrac{1}{3}\right)$
156. $\int_0^{\frac{\pi}{2}} \dfrac{dx}{2\cos x + 4\sin x} =$ $\dfrac{1}{2\sqrt5}\log\left|\left(\dfrac{1+\sqrt5}{1-\sqrt5} - \dfrac{2-\sqrt5}{2+\sqrt5}\right)\right|$	157. $\int_0^{\pi} \dfrac{dx}{3 + 2\sin x + \cos x} = \dfrac{\pi}{4}$	158. $\int_0^{\sqrt2} \sqrt{2 - x^2}\,dx = \dfrac{\pi}{2}$
159. **Evaluate:** $\int_0^3 \sqrt{9 - x^2}\,dx$	160. **Evaluate:** $\int_0^a \dfrac{x^4}{\sqrt{a^2 - x^2}}dx$	161. $\int_0^{\infty} \dfrac{x^3}{(1+x^2)^{\frac{9}{2}}}dx = \dfrac{2}{35}$
162. $\int_0^{\frac{\pi}{4}} \left(\sqrt{\tan x} + \sqrt{\cot x}\right)dx =$ $\dfrac{\pi}{\sqrt2}$	163. $\int_0^{\frac{\pi}{4}} \dfrac{\sin x + \cos x}{9 + 16\sin 2x}dx =$ $\dfrac{1}{20}\log 3$	164. $\int_0^{\frac{\pi}{2}} \dfrac{\sqrt{1+\cos x}}{(1-\cos x)^{\frac{5}{2}}}dx = 3/2$
165. $\int_0^{\frac{\pi}{2}} \dfrac{\cos x}{\left(\cos\dfrac{x}{2} + \sin\dfrac{x}{2}\right)^3}dx$	166. $\int_8^{15} \dfrac{dx}{(x-3)\sqrt{x+1}} = \dfrac{1}{2}\log\dfrac{5}{3}$	167. $\int_1^2 \dfrac{dx}{(x+13)\sqrt{x^2-1}} =$ $\dfrac{1}{\sqrt3}$
168. $\int_0^{\frac{1}{\sqrt3}} \dfrac{dx}{(1+x^2)\sqrt{1-x^2}} =$ $\dfrac{\pi}{4\sqrt2}$	169. $\int_0^1 x\sin^{-1}x\,dx = \dfrac{\pi}{8}$	170. $\int_0^1 \tan^{-1}\left(\dfrac{2x}{1+x^2}\right)dx =$ $\dfrac{\pi}{2} - \log 2$
171. $\int_0^{\frac{\pi}{2}} e^x\cos x\,dx = \dfrac{e^{\frac{\pi}{2}} - 1}{2}$	172. $\int_0^{\frac{1}{2}} \dfrac{x\sin^{-1}x}{\sqrt{1-x^2}}dx = \dfrac{1}{2} - \dfrac{\pi\sqrt3}{12}$	173. $\int_0^{\frac{1}{\sqrt2}} \dfrac{\sin^{-1}x}{(1-x^2)^{\frac{3}{2}}}dx =$

		$\dfrac{\pi}{2} - \dfrac{1}{2}\log 2$
174. $\displaystyle\int_0^{\frac{\pi}{2}} \sin 2x \,\tan^{-1}(\sin x)\,dx =$ $\dfrac{\pi}{2} - 1$	175. $\displaystyle\int_0^1 \dfrac{x e^x}{(1+x)^2}\,dx = \dfrac{e}{2} - 1$	176. $\displaystyle\int_0^4 \dfrac{x^2 + 4}{\sqrt{2x+1}}\,dx = \dfrac{58}{5}$
177. $\displaystyle\int_0^3 \dfrac{1}{x^2(1+x)}\,dx =$ $\log\dfrac{2}{3} + \dfrac{2}{3}$	178. $\displaystyle\int_0^{\frac{\pi}{2}} \dfrac{\cos x}{3\cos x + \sin x}\,dx =$ $\dfrac{3\pi - 2\log 3}{20}$	179. $\displaystyle\int_1^e \log x\,dx = 1$
180. $\displaystyle\int_0^{\frac{\pi}{2}} \dfrac{1}{1+\cot^3 x}\,dx = \dfrac{\pi}{4}$	181. $\displaystyle\int_0^a \dfrac{dx}{x + \sqrt{a^2 - x^2}} = \dfrac{\pi}{4}$	182. $\displaystyle\int_0^{\infty} \dfrac{dx}{(1+x)(1+x^2)} = \dfrac{\pi}{4}$
183. $\displaystyle\int_0^a \dfrac{\sqrt{x}\,dx}{\sqrt{x} + \sqrt{a-x}} = \dfrac{a}{2}$	184. $\displaystyle\int_0^a \dfrac{\sqrt[4]{x+4}}{\sqrt[4]{x+4} + \sqrt[4]{9-x}}\,dx = \dfrac{5}{2}$	185. $\displaystyle\int_0^{\frac{\pi}{2}} \dfrac{\sin x - \cos x}{1 + \sin x \cos x}\,dx = 0$
186. $\displaystyle\int_0^{2\pi} \dfrac{\sin 2x}{a - b\sin x}\,dx = 0$	187. $\displaystyle\int_0^{\frac{\pi}{2}} \log\tan x\,dx = 0$	188. $\displaystyle\int_0^\pi \dfrac{x}{1+\sin x}\,dx = \pi$
189. $\displaystyle\int_0^\pi \dfrac{x\tan x}{\sec x + \tan x}\,dx =$ $\dfrac{\pi(\pi - 2)}{2}$	190. $\displaystyle\int_0^\pi \dfrac{x\sin x}{1 + \sin x}\,dx$	191. $\displaystyle\int_0^\pi \dfrac{x\tan x}{\sec x \tan x}\,dx = \dfrac{\pi^2}{4}$
192. $\displaystyle\int_0^{\frac{\pi}{2}} \dfrac{x\sin x\cos x}{\cos^4 x + \sin^4 x}\,dx =$ $\dfrac{\pi^2}{16}$	193. $\displaystyle\int_0^\pi x\sin x\cos^4 x\,dx = \dfrac{\pi}{5}$	194. $\displaystyle\int_0^\pi \dfrac{e^{\cos x}}{e^{\cos x} + e^{-\cos x}}\,dx = \dfrac{\pi}{2}$
195. $\displaystyle\int_0^{\frac{\pi}{2}} \dfrac{\cos x}{1 + \cos x + \sin x}\,dx =$ $\dfrac{\pi}{4} - \dfrac{1}{2}\log 2$	196. $\displaystyle\int_0^{\frac{\pi}{2}} \dfrac{x}{\cos x + \sin x}\,dx =$ $\dfrac{\pi}{2\sqrt{2}}\log(1+\sqrt{2})$	197. $\displaystyle\int_0^{\frac{\pi}{2}} \dfrac{\sin^2 x}{\cos x + \sin x}\,dx =$ $\dfrac{1}{\sqrt{2}}\log(1+\sqrt{2})$

198. $\displaystyle\int_0^2 x\sqrt{2-x}\,dx = \frac{16\sqrt{2}}{15}$	199. $\displaystyle\int_0^1 x(1-x)^{\frac{2}{3}}\,dx = \frac{9}{40}$	200. $\displaystyle\int_0^1 x(1-x)^n\,dx =$ $\dfrac{1}{(n+1)(n+2)}$
201. $\displaystyle\int_0^1 x(1-x)^5\,dx = \frac{1}{42}$	202. $\displaystyle\int_0^1 \frac{x}{(1-x)^{\frac{3}{4}}}\,dx = \frac{16^o}{5}$	203. $\displaystyle\int_0^\pi \frac{1}{a^2\cos^2 x + b^2\sin^2 x}dx$
204. $\displaystyle\int_0^\pi \frac{1}{6\cos^2 x + 4\sin^2 x}dx =$ $\dfrac{\pi}{2\sqrt{6}}$	205. $\displaystyle\int_0^\pi \frac{1}{1+\sin^2 x}dx = \frac{\pi}{3}$	206. $\displaystyle\int_0^\pi \frac{1}{a^2\cos^2 x + b^2\sin^2 x}dx$ $= \dfrac{\pi^2}{2ab}$
207. $\displaystyle\int_0^{\frac{\pi}{2}} \log\sin x\,dx =$ $-\dfrac{\pi}{2}\log 2$	208. $\displaystyle\int_0^1 \frac{\log x}{\sqrt{1+x^2}}\,dx = -\frac{\pi}{2}\log 2$	209. $\displaystyle\int_0^1 \cot^{-1}(1-x+x^2)\,dx =$ $\dfrac{\pi}{2} - \log 2$
210. $\displaystyle\int_0^{2\pi} \cos^5 x\,dx = 0$	211. $\displaystyle\int_{-1}^1 |x|\,dx = 1$	212. $\displaystyle\int_2^8 |x-5|\,dx = 9$
213. $\displaystyle\int_1^4 \sqrt{x^2-6x+9}\,dx = \frac{5}{2}$	214. $\displaystyle\int_{-1}^1 |2x-1|\,dx = \frac{5}{2}$	215. $\displaystyle\int_{-2}^2 |2x+3|\,dx = \frac{25}{2}$
216. $\displaystyle\int_{-1}^2 \frac{|x|}{x}\,dx = 1$	217. $\displaystyle\int_4^6 |x-8|\,dx = 6$	218. $\displaystyle\int_0^4 |2-x|\,dx = 4$
219. $\displaystyle\int_{-1}^{+1} |1-x|\,dx = 2$	220. $\displaystyle\int_0^{2\pi} |\sin x|\,dx = 4$	221. $\displaystyle\int_0^1 |\sin 2\pi x|\,dx = \frac{2}{\pi}$
222. $\displaystyle\int_0^{2\pi} |\cos x|\,dx = 4$	223. $\displaystyle\int_0^\pi |\cos x|\,dx = 2$	224. $\displaystyle\int_0^{\frac{\pi}{2}} |\cos 2x|\,dx = 1$
225. $\displaystyle\int_0^\pi \sqrt{\frac{1+\cos 2x}{2}}\,dx = 2$	226. $\displaystyle\int_0^{\frac{\pi}{2}} |\sin x - \cos x|\,dx =$ $2(\sqrt{2}-1)$	227. $\displaystyle\int_0^{\frac{\pi}{2}} \sqrt{1-\sin 2x}\,dx =$ $2(\sqrt{2}-1)$

228. $\int\limits_{-2}^{+2}\left|1-x^2\right|dx = 4$	229. $\int\limits_{0}^{4}\left|x^2-5x+6\right|dx = \dfrac{17}{3}$	230. $\int\limits_{0}^{2}\left|x^2+2x-3\right|dx = 4$
231. $\int\limits_{0}^{2}\left|x^2-7x+2\right|dx = \dfrac{176}{6}$	232. $\int\limits_{-1}^{\frac{3}{2}}\left|x\sin\pi x\right|dx = \dfrac{3}{\pi}+\dfrac{1}{\pi^2}$	233. $\int\limits_{3}^{6}\left(\left|x-4\right|+\left|x-5\right|\right)dx = 5$
234. $\int\limits_{1}^{4}\left(\left|x-1\right|+\left|x-2\right|+\left|x-3\right|\right) = \dfrac{19}{2}$	235. $\int\limits_{-\frac{\pi}{2}}^{\frac{\pi}{2}}\left(\sin\left|x\right|-\cos\left|x\right|\right)dx = 0$	236. $\int\limits_{-\frac{\pi}{2}}^{\frac{\pi}{2}}\left(\sin\left|x\right|+\cos\left|x\right|\right)dx = 4$
237. $\int\limits_{0}^{1}[5x]dx = 2$	238. $\int\limits_{\frac{\pi}{2}}^{\pi}\sin^5 x\,dx = 0$	239. $\int\limits_{-\frac{\pi}{2}}^{\frac{\pi}{4}}x^3\cos^3 x\,dx = 0$
240. $\int\limits_{0}^{3}f(x)\,dx$ when $f(x) = |x| + |x-1| + |x-2|$	241. $\int\limits_{0}^{\pi/4}\dfrac{(\sin x+\cos x)dx}{(9+16\sin 2x)}$	242.
243. $\int\limits_{0}^{\infty}\dfrac{1}{(x^2+a^2)(x^2+b^2)}dx$	244. $\int\limits_{\frac{\pi}{4}}^{\frac{\pi}{2}}\cos 2x\log 2x\,dx$	245. $\int\limits_{0}^{2\pi}e^x\sin(\dfrac{\pi}{4}+\dfrac{x}{2})\,dx$
246. $\int\limits_{0}^{4}\dfrac{1}{x+\sqrt{x}}dx$	247. $\int\limits_{0}^{\frac{\pi}{2}}\sqrt{\tan x}+\sqrt{\cot x}\,dx$	248. $\int\limits_{0}^{\frac{\pi}{2}}\dfrac{1}{4\sin^2 x+5\cos^2 x}\,dx$
249. $\int\limits_{0}^{1}x\sqrt{\dfrac{1-x^2}{1+x^2}}\,dx$	250. $\int\limits_{0}^{1}\left|\,5x-3\,\right|dx$	251. $\int\limits_{0}^{2}\left|\,x^2+2x-3\,\right|dx$
252. $\int\limits_{0}^{3}[x]\,dx$	253. $\int\limits_{0}^{2}[x^2]\,dx$	254. $\int\limits_{1}^{2}\dfrac{\sqrt{x}}{\sqrt{3-x}+\sqrt{x}}\,dx$
255. $\int\limits_{0}^{\frac{\pi}{2}}\log(\tan x)\,dx$	256. $\int\limits_{0}^{\frac{\pi}{4}}\log(1+\tan x)\,dx$	257. $\int\limits_{0}^{1}x(1-x)^n\,dx$
258. $\int\limits_{0}^{\frac{\pi}{2}}\sin 2x\log\tan x\,dx$	259. $\int\limits_{0}^{\frac{\pi}{2}}\dfrac{\sin^2 x}{\sin x+\cos x}\,dx$	260. $\int\limits_{0}^{\pi}\dfrac{x\sin x}{1+\cos^2 x}\,dx$
261. $\int\limits_{0}^{\pi}\dfrac{x}{a^2\cos^2 x+b^2\sin^2 x}\,dx$	262. $\int\limits_{0}^{\pi}\dfrac{x}{1+\sin x}\,dx$	263. $\int\limits_{0}^{\frac{\pi}{2}}\dfrac{x}{\cos x+\sin x}\,dx$
264. $\int\limits_{0}^{\frac{\pi}{2}}\dfrac{\cos x}{1+\cos x+\sin x}\,dx$	265. $\int\limits_{0}^{\pi}\dfrac{e^{\cos x}}{e^{\cos x}+e^{-\cos x}}\,dx$	266. $\int\limits_{-\frac{\pi}{4}}^{\frac{\pi}{4}}x^3\sin^4 x\,dx$

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267. $\displaystyle\int_{0}^{\frac{\pi}{4}} \frac{\sin x + \cos x}{\sin^4 x + \cos^4 x}\,dx$	268. $\displaystyle\int_{0}^{\frac{\pi}{2}} \frac{\cos^2 x}{\cos^2 x + 4\sin^2 x}\,dx$	269. $\displaystyle\int_{0}^{\pi} \frac{x\tan x}{\sec x + \tan x}\,dx$
270. $\displaystyle\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \frac{\sin x + \cos x}{\sqrt{\sin 2x}}\,dx$	271. $\displaystyle\int_{0}^{\frac{\pi}{4}} \frac{\sin x + \cos x}{9 + 16\sin 2x}\,dx$	272. $\displaystyle\int_{\frac{1}{4}}^{\frac{1}{2}} \frac{1}{\sqrt{x - x^2}}\,dx$
273. $\displaystyle\int_{0}^{\frac{\pi}{2}} \sin 2x \log \tan x\,dx$	274. $\displaystyle\int_{1}^{2} \frac{\sqrt{x}}{\sqrt{3-x} + \sqrt{x}}\,dx$	275. $\displaystyle\int_{0}^{\pi} \frac{e^{\cos x}}{e^{\cos x} + e^{-\cos x}}\,dx$
276. $\displaystyle\int_{0}^{\frac{\pi}{4}} \left(\sqrt{\tan x} + \sqrt{\cot x}\right)dx$	277. $\displaystyle\int_{0}^{\pi} \frac{1}{a^2\cos^2 x + b^2\sin^2 x}\,dx$	278. $\displaystyle\int_{0}^{\frac{\pi}{2}} \log \sin x\,dx$
279. $\displaystyle\int_{0}^{2} \left|x^2 + 2x - 3\right|dx$	280.	281.
282.	283.	284.
285.	286.	287.
288.	289.	290.