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# INTEGRATION MIX

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1.  $\int 6(4x+3)^{\frac{1}{2}} dx$

2.  $\int \frac{12}{\sqrt{3x+1}} dx$

3.  $\int \frac{12x}{\sqrt{4x-1}} dx$

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

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

6.  $\int (\sin x + \cos x)^2 dx$

7.  $\int (2\sin x + \operatorname{cosec} x)^2 dx$

8.  $\int \frac{5}{(3x-1)(2x+1)} dx$

9.  $\int 4x \sin 2x dx$

10.  $\int \frac{7}{4x} dx$

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

12.  $\int \frac{10}{(1-4x)^{\frac{7}{2}}} dx$

13.  $\int (1+2\cos x)\sin x dx$

14. 
$$\int 2\cos^2 x - \cos\left(\frac{1}{2}x\right) dx$$

15. 
$$\int \frac{14x}{x^2 - 4} dx$$

16. 
$$\int \frac{9}{2x^2 + x - 1} dx$$

17. 
$$\int (8x+1)e^{-2x} dx$$

18. 
$$\int (e^{2x} + e^{-x})^2 dx$$

19. 
$$\int \frac{6}{(3x+2)^3} dx$$

20. 
$$\int \frac{6x}{(3x+2)^3} dx$$

21. 
$$\int (\sin x - 2\cos x)\sin x dx$$

22. 
$$\int \frac{(2 + \cos x)\sin 2x}{2\cos x} dx =$$

23. 
$$\int \frac{8x-3}{4x} dx$$

24. 
$$\int \frac{6x^2}{x^3 + 8} dx$$

25. 
$$\int (1 + 2\cos x)^3 \sin x dx$$

26. 
$$\int \cos\sqrt{x} dx$$

$$27. \int \frac{3}{2x-1} dx$$

$$28. \int \frac{10}{(2x+1)^6} dx$$

$$29. \int \frac{3x-1}{(2x+1)(x-2)} dx$$

$$30. \int (2 + \sin x)^2 dx$$

$$31. \int 5(2x-3)^{\frac{1}{4}} dx$$

$$32. \int \frac{e^{4x+3}}{e^{3x}} dx$$

$$33. \int xe^{5x} dx$$

$$34. \int \frac{x^3}{x^4+2} dx$$

$$35. \int \frac{2}{(x-2)(x-4)} dx$$

$$36. \int \frac{3}{4x+1} dx$$

$$37. \int \left(1 + \frac{1}{x}\right)^2 dx$$

$$38. \int \frac{x}{(x^2-1)^3} dx$$

$$39. \int \cos x - \sin x \, dx$$

$$40. \int \sin x - \cos x \, dx$$

$$41. \int \sin(4x+3) \, dx$$

$$42. \int \frac{x}{\sqrt{x+1}} \, dx$$

$$43. \int \cos(5-2x) \, dx$$

$$44. \int 3\sin 2x \, dx$$

$$45. \int (1 + \sec^2 x) \sin x \, dx$$

$$46. \int (1 - 2\cos x)^2 \, dx$$

$$47. \int (1 + \cot^2 x) \sec^2 x \, dx$$

$$48. \int 2x \cos 3x \, dx$$

$$49. \int \frac{3}{(2+x)(1-x)} \, dx$$

$$50. \int 10(3x+1)^4 \, dx$$

$$51. \int 6(2x+1)^{\frac{1}{2}} \, dx$$

$$52. \int \frac{1}{\cos^2 x \tan^2 x} dx$$

$$53. \int \cos x \sin x dx$$

$$54. \int \frac{2}{\cos^2 x} dx$$

$$55. \int 2 + 2 \tan^2 x dx$$

$$56. \int \frac{1 + \cos x}{\sin^2 x} dx$$

$$57. \int \frac{(1 + \cos x)^2}{\sin^2 x} dx$$

$$58. \int x \sin 3x dx$$

$$59. \int \frac{2x}{(2x+1)^3} dx$$

$$60. \int (4-5x)^{-1} dx$$

$$61. \int \frac{1}{4x} dx$$

$$62. \int \frac{1}{(x+1)(x+2)} dx$$

$$63. \int \frac{x+1}{x} dx$$

$$64. \int \frac{x}{x+1} dx$$

$$65. \int \frac{4x}{\sqrt{1-2x^2}} dx$$

$$66. \int \frac{x+1}{9x^2-1} dx$$

$$67. \int x \sin 4x dx$$

$$68. \int \ln x dx$$

$$69. \int \frac{4}{(2x-7)^2} dx$$

$$70. \int 4 \cos^2 x dx$$

$$71. \int (1 + \tan^2 x) \sec^2 x dx$$

$$72. \int (1 + \tan x) \sec^2 x dx$$

$$73. \int \operatorname{cosec}^2(3x+1) dx$$

$$74. \int 12 \sec^2(2x+3) dx$$

$$75. \int \frac{\sin \sqrt{x}}{\sqrt{x}} dx$$

$$76. \int 6e^{2x+2} dx$$

$$77. \int (1 - \cot^2 x) \sec^2 x dx$$

$$78. \int \frac{\sin x - \cos x}{\sin x + \cos x} dx$$

$$79. \int \sec x \tan x \sqrt{1 + \sec x} dx$$

$$80. \int \tan 2x \sec 2x dx$$

$$81. \int x^2 \ln x dx$$

$$82. \int \frac{6}{x^2 - 2x - 8} dx$$

$$83. \int 3 \cot^2 x dx$$

$$84. \int \cos 2x \sin x dx$$

$$85. \int \frac{\sqrt{x^2 + 4}}{x} dx$$

$$86. \int 7(2x - 3)^{\frac{5}{2}} dx$$

$$87. \int \frac{x^2}{4 - x^3} dx$$

$$88. \int x \sin\left(\frac{1}{2}x\right) dx$$

$$89. \int \frac{4}{4x^2 + 4x + 1} dx$$

$$90. \int \frac{3}{\sqrt{4x + 1}} dx$$



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

92.  $\int \frac{1}{3(x-2)^{\frac{1}{2}}} dx$

93.  $\int \frac{6x+3}{2x} dx$

94.  $\int \frac{4x+1}{2x-5} dx$

95.  $\int \frac{4x}{x^2-1} dx$

96.  $\int \frac{x^2}{2x-1} dx$

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

98.  $\int \frac{17-5x}{(2x+3)(2-x)^2} dx$

99.  $\int x \sin(2x-1) dx$

100.  $\int 4(3x-2)^3 dx$

101.  $\int \sqrt{x}\sqrt{x} dx$

102.  $\int \frac{1}{x^2 \sqrt[3]{x^2}} dx$

103. 
$$\int \frac{3}{\sqrt{2-4x}} dx$$

104. 
$$\int \frac{1}{1+\cos 2x} dx$$

105. 
$$\int \frac{2}{2x-x^2} dx$$

106. 
$$\int \frac{\ln x}{x^2} dx$$

107. 
$$\int \frac{3x^2}{x^3+1} dx$$

108. 
$$\int \frac{2x+1}{2x-1} dx$$

109. 
$$\int \frac{14x+1}{(1-x)(2x+1)} dx$$

110. 
$$\int \frac{6x}{\sqrt{2x+3}} dx$$

111. 
$$\int \frac{\sin^4 x + \cos^2 x}{\sin^2 x} dx$$

112. 
$$\int \frac{2}{(x-4)\sqrt{x}} dx$$

113. 
$$\int \frac{1}{2+\sqrt{x-1}} dx$$

114. 
$$\int \frac{4}{\sqrt{6x-1}} dx$$

115. 
$$\int \frac{3e^{2x}}{e^{2x}-1} dx$$

116.  $\int x \sec^2 x \, dx$

117.  $\int \operatorname{cosec} 2x \cot 2x \, dx$

118.  $\int \tan^2 x \sec^2 x \, dx$

119.  $\int \sin 2x \operatorname{cosec} x \, dx$

120.  $\int (2 \cos x - 3 \sin x)^2 \, dx$

121.  $\int \frac{\sin x + \tan x}{\cos x} \, dx$

122.  $\int \frac{1 + \sin x}{\cos^2 x} \, dx$

123.  $\int e^{\sin x} \cos x \, dx$

124.  $\int x^2 \sin x \, dx$

125.  $\int (2x+1)^3 \, dx$

126.  $\int \frac{\tan^4 x}{\cos^2 x} \, dx$

127.  $\int \frac{4x^2 - 6x + 5}{(2-x)(2x-1)^2} \, dx$

128.  $\int \frac{3x-1}{2x+3} dx$

129.  $\int \frac{8x^2}{1-2x} dx$

130.  $\int \frac{10}{(3x+1)^{\frac{3}{2}}} dx$

131.  $\int 5^x dx$

132.  $\int \sqrt{\sin x \cos^2 x} dx$

133.  $\int (2x+1)\sin(x^2+x+1) dx$

134.  $\int (2x+1)(x^2+x+1) dx$

135.  $\int (x+1)\cos(x^2+2x+1) dx$

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

137.  $\int \frac{1}{e^x+e^{-x}+2} dx$

138.  $\int x^2 \tan(x^3+1) dx$

139.  $\int x^3 \ln(x^2+1) dx$

140.  $\int \sin^2 x \sec^2 x dx$

141. 
$$\int 3\sec^2 x \sin x \, dx$$

142. 
$$\int \frac{1}{x(1+\ln x)^3} \, dx$$

143. 
$$\int x^3 \ln x \, dx$$

144. 
$$\int x \ln(2x^3) \, dx$$

145. 
$$\int 4 - \cos^4 x \sin x \, dx$$

146. 
$$\int \frac{\cos x}{\sin^3 x} \, dx$$

147. 
$$\int \frac{4\sec^2 x}{\tan x} \, dx$$

148. 
$$\int \sec^2 x \tan x \sqrt{1+\tan x} \, dx$$

149. 
$$\int \frac{\sqrt{1+2\tan x}}{\cos^2 x} \, dx$$

150. 
$$\int \tan^2 x \, dx$$

151. 
$$\int \frac{(1+\sin x)^2}{\cos^2 x} \, dx$$

152. 
$$\int \frac{\cos^2 x}{1+\sin x} \, dx$$

153. 
$$\int \frac{1}{1+\cos x} \, dx$$

154. 
$$\int \frac{\cos x}{\sqrt{\sin x}} dx$$

155. 
$$\int \frac{10x^4}{2x^{\frac{5}{2}} + 1} dx$$

156. 
$$\int \sin \sqrt{x} dx$$

157. 
$$\int \frac{x^2}{1-2x} dx$$

158. 
$$\int \frac{12}{(1-2x)^5} dx$$

159. 
$$\int \frac{x^4 + 2x}{x^5 + 5x^2 + 8} dx$$

160. 
$$\int \frac{x}{x-1} dx$$

161. 
$$\int \frac{1}{(1+\sqrt{x})\sqrt{x}} dx$$

162. 
$$\int \frac{2x^3 + 1}{x^4 + 2x} dx$$

163. 
$$\int \frac{x+2}{x(x+1)} dx$$

164. 
$$\int \sin x \ln(\sec x) dx$$

165. 
$$\int \frac{(1+2\cos x)^2}{3\sin^2 x} dx$$

166. 
$$\int \frac{1}{x \ln x} dx$$

167. 
$$\int (2-3x)^{-2} dx$$

168. 
$$\int 2 \sec^2 x + \frac{1}{2} \sin 2x dx$$

169. 
$$\int \frac{\ln x}{\sqrt{x}} dx$$

170. 
$$\int \frac{\cos^4 x}{\sin x} dx$$

171. 
$$\int 6 \tan^2 x - \sec^2 x dx$$

172. 
$$\int 6 \cos^4 x - 2 \sin^2 x dx$$

173. 
$$\int \sin 4x \cos 4x dx$$

174. 
$$\int \frac{1}{\operatorname{cosec} x - \cot x} dx$$

175. 
$$\int \frac{x^2}{\sqrt{x-1}} dx$$

176. 
$$\int \frac{3e^{2x}}{\sqrt{e^x-1}} dx$$

177. 
$$\int \frac{1}{(2+\sqrt[3]{x})\sqrt[3]{x^2}} dx$$

178. 
$$\int \frac{4x^7}{x^4+1} dx$$

179. 
$$\int \frac{x}{9x^2+1} dx$$

180. 
$$\int \frac{2}{x+\sqrt[3]{x}} dx$$

181. 
$$\int \frac{3x}{1+\sqrt{x}} dx$$

182. 
$$\int \frac{3x^2+2}{4x+1} dx$$

183. 
$$\int \frac{3}{x} + \frac{4}{x^2} - \frac{2}{x^3} dx$$

184. 
$$\int 2\sin 2x \cos^2 x dx$$

185. 
$$\int \frac{10x^2-23x+11}{(2-3x)(2x-1)^2} dx$$

186. 
$$\int \frac{\sec x}{\sec x - \tan x} dx$$

187. 
$$\int x \cos 6x dx$$

188. 
$$\int \sin x \sin 3x dx$$

189. 
$$\int 4 \cos 3x + \frac{1}{2} \sin 3x dx$$

190. 
$$\int \sin^2 6x dx$$

191. 
$$\int \frac{\cos 2x}{1-\cos^2 2x} dx$$



192.  $\int \frac{1}{\cos^2 x \tan^2 x} dx$

193.  $\int 3\cos^3 3x dx$

194.  $\int 3\sec^4 x dx$

195.  $\int 2\sin x \cos 3x dx$

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

197.  $\int \frac{4}{2x-1} + \frac{1}{3-4x} dx$

198.  $\int x^2 \sin 3x dx$

199.  $\int \operatorname{cosec}^2 2x dx$

200.  $\int \sin^3 2x \cos 2x dx$

201.  $\int \cot^2 3x dx$

202.  $\int \frac{7}{3x} dx$

203.  $\int \frac{\sin x \cos x}{\sqrt{1-\cos 2x}} dx$

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

205.  $\int 4(3-2x)^5 dx$

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

207.  $\int \sin 2x \sec x dx$

208.  $\int \sin 2x \sin x dx$

209.  $\int x \cos^2 x dx$

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

211.  $\int \frac{1-\ln x}{x^2} dx$

212.  $\int 4xe^{-\frac{2}{3}x} dx$

213.  $\int (e^x+x)^2 dx$

214.  $\int \frac{e^{4x}-e^{-x}}{e^{2x}} dx$

215.  $\int \frac{e^{\ln x}}{x} dx$

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

217.  $\int \frac{\cos(\ln x)}{x} dx$

218. 
$$\int \frac{4xe^{2x^2}}{\sqrt{1+2e^{2x^2}}} dx$$

219. 
$$\int \frac{4}{3(2x+1)} dx$$

220. 
$$\int \frac{1}{\cos^2 x \tan x} dx$$

221. 
$$\int \frac{\sin 2x}{1+\cos x} dx$$

222. 
$$\int \sin^3 x dx$$

223. 
$$\int \frac{1}{3}\sin 2x - \frac{1}{2}\cos 3x dx$$

224. 
$$\int \frac{3x}{\sqrt{4-2x^2}} dx$$

225. 
$$\int \frac{1}{\sin x \cos^2 x} dx$$

226. 
$$\int \frac{3x}{4-2x^2} dx$$

227. 
$$\int \frac{1-4x}{x(4x-\ln x)^{\frac{3}{2}}} dx$$

228. 
$$\int \frac{\sin x}{\cos^4 x} dx$$

229. 
$$\int \frac{\operatorname{cosec}^2 x}{1+\cot x} dx$$

230. 
$$\int x^2 \cos\left(\frac{1}{4}x\right) dx$$

231. 
$$\int \frac{3}{(\sqrt{x}-2)(\sqrt{x}+1)} dx$$

232. 
$$\int \frac{1}{(\sqrt{x}-2)(\sqrt{x}+2)} dx$$

233. 
$$\int \frac{4-3x}{2x+1} dx$$

234. 
$$\int \left(1 + \frac{1}{x}\right) \sqrt{x} dx$$

235. 
$$\int \frac{\sec x}{\cos x - \sin x} dx$$

236. 
$$\int \frac{x^2 - 2}{x^2 - 1} dx$$

237. 
$$\int \frac{1}{x^3 - x^2} dx$$

238. 
$$\int \frac{6x^2}{2x^{\frac{3}{2}} - 1} dx$$

239. 
$$\int \frac{1}{1 + \sqrt{x-1}} dx$$

240. 
$$\int \frac{x+1}{x-5} dx$$

241. 
$$\int \frac{(x+2)^2}{3x} dx$$

242. 
$$\int 4e^{-2x} - \frac{1}{3} \sin 3x dx$$

243.  $\int 2x \sec^2 2x \, dx$

244.  $\int \cos x \sin^8 x \, dx$

245.  $\int \frac{\sin^5 x}{\cos^7 x} \, dx$

246.  $\int \tan 3x \, dx$

247.  $\int \frac{1}{\sec x - 1} \, dx$

248.  $\int \frac{\sin^2 x}{\cos^4 x} \, dx$

249.  $\int \frac{\sin x \cos x}{1 - \cos x} \, dx$

250.  $\int \frac{(4x-1)^{-1}}{4} \, dx$

251.  $\int \frac{e^{2x} - 2e^x}{e^x + 1} \, dx$

252.  $\int \frac{2x^2 - 3x + 2}{x-1} \, dx$

253.  $\int 1 - \cot^2 x \, dx$

254.  $\int \frac{x^2 + 1}{x^4 - x^2} \, dx$

255.  $\int \operatorname{cosec}^4 x \, dx$

256. 
$$\int x^2 e^{\frac{1}{2}x} dx$$

257. 
$$\int (e^x + 2e^{-x})^2 dx$$

258. 
$$\int e^x \sin(e^x) dx$$

259. 
$$\int xe^2 dx$$

260. 
$$\int (2\cos x - 3)^2 dx$$

261. 
$$\int \frac{x^2}{x-2} dx$$

262. 
$$\int \frac{(x+1)e^{\frac{1}{x}}}{x^3} dx$$

263. 
$$\int \frac{\sqrt{4x+1}}{x} dx$$

264. 
$$\int \frac{1}{(1-x^2)^{\frac{3}{2}}} dx$$

265. 
$$\int \frac{2^x}{2^x + 1} dx$$

266. 
$$\int (2x-1)\sqrt{2x-3} dx$$

267. 
$$\int \frac{9x^5}{\sqrt{x^3+1}} dx$$

268.  $\int (3\sin x - \cos x)^2 dx$

269.  $\int \frac{4x}{x^2 - 10} dx$

270.  $\int \frac{4e^{3x}}{1 - e^{3x}} dx$

271.  $\int (1 - \cos x)\sin x \cos x dx$

272.  $\int (\tan x - 1)^2 dx$

273.  $\int \frac{1 + e^x}{1 - e^x} dx$

274.  $\int \sin 2x \cos^4 2x dx$

275.  $\int \frac{1}{\sin x \cos x} dx$

276.  $\int \frac{1}{\sin^2 x \cos x} dx$

277.  $\int \frac{1}{1 - \sin x} dx$

278.  $\int \frac{1}{e^x + 1} dx$

279.  $\int (1 + \sin x)\sin 2x dx$

280.  $\int x \sec x \tan x dx$

281. 
$$\int \sin 3x \cos 2x \, dx$$

282. 
$$\int \frac{1-2x}{x(2x-\ln x)^2} \, dx$$

283. 
$$\int x^2 e^{-\frac{1}{4}x} \, dx$$

284. 
$$\int \frac{x+4}{x-4} \, dx$$

285. 
$$\int 3x^2 (4-2x^3)^{\frac{3}{2}} \, dx$$

286. 
$$\int x\sqrt{x+1} \, dx$$

287. 
$$\int \frac{x+1}{\sqrt[3]{x^2+2x+3}} \, dx$$

288. 
$$\int \sin 2x \cos x \, dx$$

289. 
$$\int \sin 2x \cos 2x \, dx$$

290. 
$$\int \frac{3^x}{3^x+1} \, dx$$

291. 
$$\int \frac{\tan x}{\tan x - \sec x} \, dx$$

292. 
$$\int \frac{(\ln x)^2}{x} \, dx$$



293. 
$$\int \frac{8(x^2+1)}{(x-3)(x+1)^2} dx$$

294. 
$$\int \sqrt[3]{x} \sqrt{\frac{1}{x}} dx$$

295. 
$$\int (x+1)(x^2+2x-1)^4 dx$$

296. 
$$\int \sin x \cos^4 x dx$$

297. 
$$\int \frac{2x+6}{x^2+6x+1} dx$$

298. 
$$\int \frac{1}{x(x-4)} dx$$

299. 
$$\int \frac{\tan x}{\sqrt{1+\cos 2x}} dx$$

300. 
$$\int \cos^2 x \sin^2 x dx$$

301. 
$$\int \frac{3x^3+5x}{x^2+1} dx$$

302. 
$$\int \sin^2 2x dx$$

303. 
$$\int \frac{\cos 2x}{\cos^2 x} dx$$

304. 
$$\int \sec^3 x \tan x dx$$

305. 
$$\int x[(\ln x)^2 - 1] dx$$

306. 
$$\int \frac{x^2}{x^3 + 5} dx$$

307. 
$$\int \frac{2x+1}{3x-1} dx$$

308. 
$$\int x(3+x^2)^4 dx$$

309. 
$$\int \frac{9}{x^2\sqrt{9-x^2}} dx$$

310. 
$$\int \frac{\cos x}{\sqrt{\sin^3 x}} dx$$

311. 
$$\int \frac{x-3}{\sqrt{x+1}-2} dx$$

312. 
$$\int \frac{x-4}{x^2-4} dx$$

313. 
$$\int \frac{2\sin x}{\cos x + \sin x} dx$$

314. 
$$\int (1-x^{-2})^2 dx$$

315. 
$$\int \frac{\sqrt{\tan x}}{\cos^2 x} dx$$

316. 
$$\int (3\sin x + \cos x)^2 dx$$

317. 
$$\int \frac{\sec^2 x}{(1+\tan x)^3} dx$$

318. 
$$\int \frac{1}{\cos^2 x \sin^2 x} dx$$

319.  $\int \cot 2x \, dx$

320.  $\int 2^x \, dx$

321.  $\int \frac{\sin x + \sin x \cos x}{1 - \cos x} \, dx$

322.  $\int \frac{1}{\cos^4 x} \, dx$

323.  $\int \frac{\sin x \cos x}{\sqrt{1 + \cos 2x}} \, dx$

324.  $\int \frac{\ln x^2}{x} \, dx$

325.  $\int \sin x \cos^2\left(\frac{1}{2}x\right) \, dx$

326.  $\int \frac{e^{3x} + 1}{e^x + 1} \, dx$

327.  $\int \frac{\sqrt{x}}{x-1} \, dx$

328.  $\int 2^x 3^x \, dx$

329.  $\int 3^{2x+1} \, dx$

330.  $\int \frac{2x^{\frac{3}{2}} + 1}{x^{\frac{5}{2}} + 2x} \, dx$

331.  $\int \frac{1}{x(1+\sqrt{x})} \, dx$

332. 
$$\int \frac{\sqrt{x}}{\sqrt{x}-1} dx$$

333. 
$$\int \frac{1}{x(1+x^2)} dx$$

334. 
$$\int \sin^4 x \sin 2x dx$$

335. 
$$\int (\tan x + \cot x)^2 dx$$

336. 
$$\int \frac{x^2 + 2x - 2}{x^2 - 2x + 2} dx$$

337. 
$$\int x \sin x \cos x dx$$

338. 
$$\int \sec x \tan^3 x dx$$

339. 
$$\int \frac{1}{\operatorname{cosec} x - \cot x} dx$$

340. 
$$\int \frac{2x^{\frac{1}{4}} + 1}{4x^{\frac{5}{4}} + 4x} dx$$

341. 
$$\int \frac{\ln(x-1)}{\sqrt{x}} dx$$

342. 
$$\int e^{x+e^x} dx$$

343. 
$$\int \frac{1}{x(1+\sqrt{x})^2} dx$$

344. 
$$\int x^2 e^{-x} dx$$

345. 
$$\int \frac{e^{\sqrt{x}}}{\sqrt{x}} dx$$

346. 
$$\int \sqrt{x} e^{\sqrt{x}} dx$$

347. 
$$\int \frac{4x^2 - x + 1}{(x-1)(2x-1)} dx$$

348. 
$$\int e^x \cos x dx$$

349. 
$$\int \frac{5^{2x}}{5^{2x} + 3} dx$$

350. 
$$\int \frac{3x^5}{x^3 - 1} dx$$

351. 
$$\int \frac{x-2}{x^2 - 4x - 2} dx$$

352. 
$$\int \frac{1}{(x-1)\sqrt{x^2-1}} dx$$

353. 
$$\int \frac{3x^3 - x^2 + 10x - 3}{x^2 + 3} dx$$

354. 
$$\int \frac{4}{(4+x^2)^{\frac{3}{2}}} dx$$

355. 
$$\int \frac{(x+1)^2}{x^2+1} dx$$

356. 
$$\int \frac{\cos x + \tan x}{1 + \tan^2 x} dx$$

357. 
$$\int \frac{\sqrt{1+\sqrt{x}}}{\sqrt{x}} dx$$

358. 
$$\int \frac{4x^3 \sqrt{x^4+1}}{1+\sqrt{x^4+1}} dx$$

359. 
$$\int (\ln x)^2 dx$$

360. 
$$\int \sqrt{18 \cos x \sin 2x} dx$$

361. 
$$\int \frac{1}{\sqrt{x^5+x^2}} dx$$

362. 
$$\int \sqrt{\sin^2 x + (\cos x - 1)^2} dx$$

363. 
$$\int x(\sin x + \cos x) dx$$

364. 
$$\int \left( \frac{1}{x^2} + \frac{1}{x^3} \right) e^{\frac{1}{x}} dx$$

365. 
$$\int \frac{\sec^4 x}{\sqrt{\tan x}} dx$$

366. 
$$\int \frac{\cos x}{(\cos x + \sin x)^3} dx$$

367. 
$$\int \frac{20x}{4-x^2} dx$$

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

369.  $\int x(\sec^2 x - \operatorname{cosec}^2 x) dx$

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

371.  $\int x \tan^2 x dx$

372.  $\int x \cos^2 3x dx$

373.  $\int \cos x (6 \sin x - 2 \sin 3x)^{\frac{2}{3}} dx$

374.  $\int \sqrt{x^2 - x^4} dx$

375.  $\int \frac{x+3}{\sqrt[3]{x^2+6x}} dx$

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

377.  $\int \frac{1}{\operatorname{cosec} 2x - \cot 2x} dx$

378.  $\int \sec^3 x \tan^5 x dx$

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