1. $\displaystyle\int \frac{\sin x + \sec x}{\tan x}\, dx$

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

3. $\displaystyle\int_0^2 \frac{2t}{(t-3)^2}\, dt$

4. $\displaystyle\int \frac{x}{\sqrt{3 - x^4}}\, dx$

5. $\displaystyle\int_{-1}^1 \frac{e^{\arctan y}}{1 + y^2}\, dy$

6. $\displaystyle\int x \csc x \cot x\, dx$

7. $\displaystyle\int_1^3 r^4 \ln r\, dr$

8. $\displaystyle\int_0^4 \frac{x - 1}{x^2 - 4x - 5}\, dx$

9. $\displaystyle\int \frac{x - 1}{x^2 - 4x + 5}\, dx$

10. $\displaystyle\int \frac{x}{x^4 + x^2 + 1}\, dx$

11. $\displaystyle\int \sin^3 \theta \cos^5 \theta\, d\theta$

12. $\displaystyle\int \sin x \cos(\cos x)\, dx$

13. $\displaystyle\int \frac{1}{(1 - x^2)^{3/2}}\, dx$

14. $\displaystyle\int \frac{\sqrt{1 + \ln x}}{x \ln x}\, dx$

15. $\displaystyle\int_0^{1/2} \frac{x}{\sqrt{1 - x^2}}\, dx$

16. $\displaystyle\int_0^{\sqrt{2}/2} \frac{x^2}{\sqrt{1 - x^2}}\, dx$

17. $\displaystyle\int x \sin^2 x\, dx$

18. $\displaystyle\int \frac{e^{2t}}{1 + e^{4t}}\, dt$

19. $\displaystyle\int e^{x+e^x}\,dx$

20. $\displaystyle\int e^{\sqrt[3]{x}}\,dx$

21. $\displaystyle\int t^3 e^{-2t}\,dt$

22. $\displaystyle\int x\sin^{-1}x\,dx$

23. $\displaystyle\int_0^1 (1+\sqrt{x})^8\,dx$

24. $\displaystyle\int \ln(x^2-1)\,dx$

25. $\displaystyle\int \frac{3x^2-2}{x^2-2x-8}\,dx$

26. $\displaystyle\int \frac{3x^2-2}{x^3-2x-8}\,dx$

27. $\displaystyle\int \cot x\,\ln(\sin x)\,dx$

28. $\displaystyle\int \sin\sqrt{at}\,dt$

29. $\displaystyle\int_0^5 \frac{3w-1}{w+2}\,dw$

30. $\displaystyle\int_{-2}^2 |x^2-4x|\,dx$

31. $\displaystyle\int \sqrt{\frac{1+x}{1-x}}\,dx$

32. $\displaystyle\int \frac{\sqrt{2x-1}}{2x+3}\,dx$

33. $\displaystyle\int \sqrt{3-2x-x^2}\,dx$

34. $\displaystyle\int_{\pi/4}^{\pi/2} \frac{1+4\cot x}{4-\cot x}\,dx$

35. $\displaystyle\int_{-1}^1 x^8 \sin x\,dx$

36. $\displaystyle\int \sin 4x\,\cos 3x\,dx$

37. $\displaystyle\int_0^{\pi/4} \cos^2\theta \tan^2\theta\, d\theta$

38. $\displaystyle\int_0^{\pi/4} \tan^5\theta \sec^3\theta\, dx$

39. $\displaystyle\int \frac{x}{1 - x^2 + \sqrt{1 - x^2}}\, dx$

40. $\displaystyle\int \frac{1}{\sqrt{4y^2 - 4y - 3}}\, dy$

41. $\displaystyle\int \theta \tan^2\theta\, d\theta$

42. $\displaystyle\int x^2 \tan^{-1} x\, dx$

43. $\displaystyle\int e^x \sqrt{1 + e^x}\, dx$

44. $\displaystyle\int \sqrt{1 + e^x}\, dx$

45. $\displaystyle\int x^5 e^{-x^3}\, dx$

46. $\displaystyle\int \frac{1 + e^x}{1 - e^x}\, dx$

47. $\displaystyle\int \frac{x + a}{x^2 + a^2}\, dx$

48. $\displaystyle\int \frac{x}{x^4 - a^4}\, dx$

49. $\displaystyle\int \frac{1}{x\sqrt{4x + 1}}\, dx$

50. $\displaystyle\int \frac{1}{x^2\sqrt{4x + 1}}\, dx$

51. $\displaystyle\int \frac{1}{x\sqrt{4x^2 + 1}}\, dx$

52. $\displaystyle\int \frac{1}{x(x^4 + 1)}\, dx$

53. The function $y = e^{x^2}$ and $y = x^2 e^{x^2}$ don't have elementary antiderivatives, but $y = (2x^2 + 1)e^{x^2}$ does. Evaluate $\displaystyle\int (2x^2 + 1)e^{x^2}\, dx$.

54. $\displaystyle\int (x + \sin x)^2\, dx$

55. $\displaystyle\int \frac{1}{x + 4 + 4\sqrt{x+1}}\, dx$

56. $\displaystyle\int \frac{x \ln x}{\sqrt{x^2 - 1}}\, dx$

57. $\displaystyle\int x\sqrt[3]{x + c}\, dx$

58. $\displaystyle\int x^2 \ln(1 + x)\, dx$

59. $\displaystyle\int \frac{1}{e^{3x} - e^x}\, dx$

60. $\displaystyle\int \frac{1}{x + \sqrt[3]{x}}\, dx$

61. $\displaystyle\int \frac{x^4}{x^{10} + 16}\, dx$

62. $\displaystyle\int \frac{x^3}{(x + 1)^{10}}\, dx$

63. $\displaystyle\int \sqrt{x}\, e^{\sqrt{x}}\, dx$

64. $\displaystyle\int_{\pi/4}^{\pi/3} \frac{\ln(\tan x)}{\sin x \cos x}\, dx$

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

66. $\displaystyle\int_2^3 \frac{u^3 + 1}{u^3 - u^2}\, du$

67. $\displaystyle\int_1^3 \frac{\arctan \sqrt{t}}{\sqrt{t}}\, dt$

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

69. $\displaystyle\int \frac{e^{2x}}{1 + e^x}\, dx$

70. $\displaystyle\int \frac{\ln(x + 1)}{x^2}\, dx$

71. $\displaystyle\int \frac{x}{x^4 + 4x^2 + 3}\, dx$

72. $\displaystyle\int \frac{\sqrt{t}}{1 + \sqrt[3]{t}}\, dt$

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

74. $\displaystyle\int \frac{1}{e^x - e^{-x}}\, dx$

75. $\displaystyle\int \sin x \sin 2x \sin 3x \, dx$

76. $\displaystyle\int (x^2 - bx) \sin 2x \, dx$

77. $\displaystyle\int \frac{\sqrt{x}}{1+x^3}\, dx$

78. $\displaystyle\int \frac{\sec x \cos 2x}{\sin x + \sec x}\, dx$

79. $\displaystyle\int x \sin^2 x \cos x \, dx$

80. $\displaystyle\int \frac{\sin x \cos x}{\sin^4 x + \cos^4 x}\, dx$