

46. $\frac{4x}{2x+1}$

47. $\frac{4(\ln x)^3}{x}$

49. $\frac{2x^2-1}{x(x^2-1)}$

50. $\frac{x}{x^2-4}$

52. $\frac{3}{x(x+3)}$

53. $\frac{-2\ln t + 1}{t^3}$

55. $\frac{1}{x \ln x}$

56. $\frac{1}{x \ln x}$

58. $\frac{2}{3(x+1)(x-1)}$

59. $\frac{-4}{x(4+x^2)}$

64. $-\cot x$

65. $-\tan x + \frac{\sin x}{\cos x - 1}$

71. $y = 5x - 2, m = 5$

76. $m = 1, y = x + 1$

78. $\frac{-y - 5xy}{x}$

83. $\min(1, \frac{1}{2})$

85. $\min(\frac{1}{e}, e^{-1})$

86. $\max(e, \frac{1}{e})$

95. $y' = \frac{(3x^2 - 15x + 8)(x)}{2(3x - 2)^{3/2}(x - 1)^3}$

97. $y' = \frac{(x^2 + 2x - 1)(x - 1)^{1/2}}{(x + 1)^{3/2}}$

5.2

1. $\ln|x| + C$

2. $10 \ln|x| + C$

4. $\ln|x - 5| + C$

5. $-\frac{1}{2} \ln|3 - 2x| + C$

7. $\frac{1}{2} \ln|x^2 + 1| + C$

8. $-\frac{1}{3} \ln|3 - x^2| + C$

10. $-\sqrt{9 - x^2} + C$

11. $\frac{1}{3} \ln|x^3 + 3x^2 + 9x| + C$

13. $\frac{x^2}{2} - 4x + 6 \ln|x + 1| + C$

$$14. x^2 + 11x + 19 \ln|x-2| + C$$

$$16. \frac{x^3}{3} - \frac{5}{2}x^2 + 19x - 115 \ln|x+5| + C$$

$$17. \frac{x^3}{3} - 2x + \frac{1}{2} \ln|x^2+2| + C$$

$$19. \frac{1}{3} (\ln x)^3 + C$$

$$20. \frac{1}{3} \ln|\ln(x^3)| + C$$

$$22. 3 \ln|1+x^{1/3}| + C$$

$$23. 2 \ln|x-1| + \frac{2}{k+1} + C$$

$$29. \ln|\sin \theta| + C$$

$$31. -\frac{1}{2} \ln|\csc 2x + \cot 2x| + C$$

$$32. 2 \ln\left|\sec \frac{x}{2} + \tan \frac{x}{2}\right| + C$$

$$34. -\ln|\cot t| + C$$

$$35. \ln|\sec x - 1| + C$$

$$37. -3 \ln|2-x| + C$$

$$40. \ln|\tan t + 1| + C$$

$$47. \frac{5}{3} \ln 13$$

$$49. \frac{7}{3}$$

$$50. \ln 2$$