

Practice Chapter 7 Derivative Problems

- $f(x) = e^{5x}$
- $f(x) = (x^2 + 3x)e^x$
- $f(x) = xe^x - e^{-x}$
- $f(x) = e^{x^2} \cdot e^{x+1}$
- $f(x) = \frac{e^{x^2}}{e^{x-1}}$
- $f(x) = e^{-x}$
- $f(x) = e^{\frac{2x}{3}}$
- $f(x) = e^{\sqrt{x}}$
- $f(x) = e^{3x} + 2e^{2x} - 3e^x + 7$
- $f(x) = e^{x^2-2}$
- $f(x) = \frac{1 + e^{2x}}{2 - e^{2x}}$
- $f(x) = e^{3x-1} - 4e^{-x}$
- $f(x) = \cos(e^x)$
- $f(x) = 3e^{2x} - 4e^x + 1$
- $f(x) = e^{3\cos(2x)}$
- $f(x) = e^{-2x} + 4e^{-3x} + 7$
- $f(x) = e^{2x+1}$
- $f(x) = \frac{1}{2}e^{2x}$
- $f(x) = e^{\sin x}$
- $f(x) = e^{2x} + e^4$
- $f(x) = 2xe^x$
- $f(x) = \frac{1}{1 - e^{-x}}$
- $f(x) = \frac{e^{-x}}{x}$
- $f(x) = x^2e^{-x}$
- $f(x) = e^{-\frac{1}{x^2}}$
- $f(x) = e^{\sqrt{x^2+1}}$
- $f(x) = \frac{e^{2x} - e^{-x}}{2}$
- $f(x) = e^{2x} \cos(3x)$
- $f(x) = e^{\cos(4x)}$
- $f(x) = x^2 \cdot 2^x$
- $f(x) = 3^{5x}$
- $f(x) = x^4 + 4^x$
- $f(x) = 9^{-x}$

34. $f(x) = \tan(5^x)$

51. $f(x) = x \ln(\sqrt{x})$

35. $f(x) = 3^{4x+1} + 2^{4x+2}$

52. $f(x) = \ln(7x)$

36. $f(x) = 3^{x^2+1}$

53. $f(x) = (\ln x)^{1/2}$

37. $f(x) = 2^{-x}$

54. $f(x) = \ln(3xe^{-x})$

38. $f(x) = \left(\frac{1}{2}\right)^x$

55. $f(x) = \ln\left(\frac{x-1}{x^2+1}\right)$

39. $f(x) = e^x \ln x$

56. $f(x) = \ln\left(\frac{e^x}{1+e^x}\right)$

40. $f(x) = \ln(\sin x)$

57. $f(x) = \ln(e^{\sin 2x})$

41. $f(x) = \frac{1}{\ln x}$

58. $f(x) = \ln\sqrt{\frac{x}{x^2+1}}$

42. $f(x) = \ln(x^2)$

59. $f(x) = \arcsin(2x)$

43. $f(x) = \ln\left(\frac{10}{x}\right)$

60. $f(x) = \arctan(x^2)$

44. $f(x) = \ln(10^x)$

61. $f(x) = x(\arcsin x)$

45. $f(x) = \ln(3x) + 4 \ln x + \ln 5$

62. $f(x) = \arcsin\left(\frac{2}{x}\right)$

46. $f(x) = x^2 \ln(2x)$

63. $f(x) = \arcsin(2x - 3)$

47. $f(x) = \ln(x^{-1})$

64. $f(x) = 2x(\arctan x)$

48. $f(x) = x \ln x$

65. $f(x) = \arctan(5x)$

49. $f(x) = \ln \frac{1}{x}$

66. $f(x) = \arcsin(e^x)$

50. $f(x) = (\ln x)^3$

67. $f(x) = \arctan(3x - 4)$