

$$59. y = \log_2 \log_3 \log_4 x. \quad [x > 4]$$

$$60. y = \sqrt{\log\left(\frac{5x - x^2}{4}\right)}. \quad [1 \leq x \leq 4]$$

$$61. y = \log(\sqrt{x-4} + \sqrt{6-x}). \quad [4 \leq x \leq 6]$$

$$62. y = \frac{\ln(1+x)}{x-1}. \quad [-1 < x < 1; x > 1]$$

$$63. y = \frac{1}{xe^x}. \quad [x \neq 0]$$

$$64. y = \log(x^2 - 5x). \quad [x < 0; x > 5]$$

$$65. y = \log(x - \sqrt{1-x^2}). \quad \left[\frac{\sqrt{2}}{2} < x \leq 1\right]$$

$$66. y = \log \log(x+3). \quad [x > -2]$$

$$67. y = \log \frac{2+x}{2-x}. \quad [-2 < x < 2]$$

$$68. y = \log \frac{x^2 - 3x + 2}{x+1}. \quad [-1 < x < 1; x > 2]$$

$$69. y = \sqrt{\log(x^2 - 8x + 8)}. \quad [x \leq 1; x \geq 7]$$

$$70. y = \log \sqrt[3]{\frac{x^2 - 6x + 8}{x^2 - 2}}. \quad [x < -\sqrt{2}; \sqrt{2} < x < 2; x > 4]$$

$$71. y = \sqrt{x} + \sqrt[3]{\frac{1}{x-2}} - \log(2x-3). \quad \left[x > \frac{3}{2}, \text{ con } x \neq 2\right]$$

$$72. y = \frac{3}{4-x^2} + \log(x^3 - x). \quad [-1 < x < 0; 1 < x < 2; x > 2]$$

$$73. y = \sqrt{\log\left(\frac{5x - x^2}{4}\right)} + \sqrt{x^2 - 1}. \quad [1 \leq x \leq 4]$$

$$74. y = \log[1 - \log(x^2 - 5x + 16)]. \quad [2 < x < 3]$$

$$75. y = \frac{x-2}{\cos 2x}. \quad \left[x \neq \frac{\pi}{4}(2k+1), k = 0, \pm 1, \pm 2, \dots\right]$$

$$76. y = \sqrt{\sin 2x}. \quad \left[k\pi \leq x \leq k\pi + \frac{\pi}{2}, k = 0, \pm 1, \pm 2, \dots\right]$$

$$77. y = \sqrt{\frac{x}{2-x}} - \sqrt{\sin x}. \quad [0 \leq x < 2]$$

$$78. y = \frac{1}{\sqrt{\sin x}} + \sqrt[3]{\sin x}. \quad [2k\pi < x < (2k+1)\pi, k = 0, \pm 1, \pm 2, \dots]$$

$$79. y = \log \sin(x-3) + \sqrt{16-x^2}. \quad [3-2\pi < x < 3-\pi, 3 < x \leq 4]$$

$$80. y = \frac{\sqrt{\sin x + \cos x}}{\operatorname{tg}^2 x - 3}, \text{ con } 0 \leq x \leq 2\pi. \quad \left[0 \leq x \leq \frac{3\pi}{4}; \frac{7\pi}{4} \leq x \leq 2\pi, \text{ con } x \neq \frac{\pi}{3}, \frac{\pi}{2}, \frac{2\pi}{3}\right]$$

$$81. y = \log_{x-1}(2-x-x^2). \quad [S = \emptyset]$$

$$82. y = \sqrt{\log \cos 2\pi x}. \quad [x = k]$$