

$$4) \quad f^{-1}(x) = y = [\ln(x-2) + 1]^5$$

$$5) \quad y_1 = 1 - \sqrt{2 + \frac{9}{4}x^2}$$

$$y_2 = 1 + \sqrt{2 + \frac{9}{4}x^2}$$

$$6) \quad y = \ln(x + \sqrt{1+x^2})$$

$$7) \quad y = \frac{1}{2} \cdot \ln \frac{1+x}{1-x}$$

8) Nicht nach x auflösbar.

$$9) \quad y = \frac{3x}{2x-1}$$

$$10) \quad y = \frac{1}{9}(e^x - 1)^2$$

$$11) \quad y = \ln \frac{3}{1-x^3}$$

$$12) \quad y = 4 \cdot (2 - e^x)^2 + 3$$

$$13) \quad y = \pm \frac{\sqrt{1-x^2}}{x}$$

$$14) \quad y = \pm \sqrt{\frac{x+1}{1-x}}$$

$$15) \quad y = x \pm \sqrt{x^2 - 3x}$$

$$16) \quad y = \ln \left[\frac{1}{2} (-2 - x \pm \sqrt{x^2 + 8x + 4}) \right]$$

b) 1) $y = x^2 - 3$

$$D = [0; \infty); \quad W = [-3; \infty)$$

2) $y = \sqrt{x^2 - 3}$

$$D = [\sqrt{3}; \infty); \quad W = [0; \infty)$$

$$y = -\sqrt{x^2 - 3}$$

$$D = [\sqrt{3}; \infty); \quad W = (-\infty; 0]$$

3) $y = -\frac{1}{2} \ln x$

$$D = (0; \infty); \quad W = \mathbb{R}$$

4) $y = 2 \cdot \ln \left(\frac{x-1}{3} - 3 \right)$

$$D = (1; \infty); \quad W = \mathbb{R}$$

5) $y = e^{-x}$

$$D = \mathbb{R}; \quad W = (0; \infty)$$

6) $y = 1 - e^{\frac{x}{3}}$

$$D = \mathbb{R}; \quad W = (-\infty; 1)$$

- 7) $y = \sqrt{\ln \frac{1}{x-1}}$ $D = (1;2); W = (0;\infty)$
- $y = -\sqrt{\ln \frac{1}{x-1}}$ $D = (1;2); W = (-\infty;0)$
- 8) $y = \frac{3x+1}{x-1}$ $D = \mathbb{R} \setminus \{1\}; W = \mathbb{R} \setminus \{3\}$
- 9) $y = 2 + \lg \frac{4(x-5)}{3}$ $D = (5;\infty); W = \mathbb{R}$
- 10) $y = 3 + 10^{\frac{x+4}{2}}$ $D = \mathbb{R}; W = (3;\infty)$
- 11) $y = \frac{1}{x}$ $D = \mathbb{R} \setminus \{0\}; W = \mathbb{R} \setminus \{0\}$
- 12) $y = \sqrt{1-x^2}$ $D = [0;1]; W = [0;1]$
- $y = -\sqrt{1-x^2}$ $D = [0;1]; W = [-1;0]$