

$$y = x^2 - 2 \Rightarrow x^2 = y + 2 \Rightarrow x = \sqrt{y+2} \Rightarrow R_f = [-2, +\infty) \quad (1)$$

$$y = x^2 + 1 \Rightarrow x^2 = y - 1 \Rightarrow x = \sqrt{y-1} \Rightarrow R_f = \mathbb{R}$$

$$y = x^2 - 2x + 1 \Rightarrow x^2 - 2x + 1 = y \Rightarrow x^2 - 2x = y - 1 \Rightarrow x^2 - 2x + 1 = y - 1 + 1 \Rightarrow (x-1)^2 = y \Rightarrow x-1 = \sqrt{y} \Rightarrow x = 1 + \sqrt{y} \Rightarrow R_f = [0, +\infty) \quad (2)$$

$$y = x^2 - 2x + 1 \Rightarrow x^2 - 2x + 1 = y \Rightarrow x^2 - 2x = y - 1 \Rightarrow x^2 - 2x + 1 = y - 1 + 1 \Rightarrow (x-1)^2 = y \Rightarrow x-1 = \sqrt{y} \Rightarrow x = 1 + \sqrt{y}$$

$$x^2 y - 2y = x^2 + 3 \Rightarrow x^2 y - x^2 = 2y + 3 \Rightarrow x^2 (y-1) = 2y+3 \Rightarrow x^2 = \frac{2y+3}{y-1} \Rightarrow x = \sqrt{\frac{2y+3}{y-1}} \Rightarrow R_f = (-\infty, -\frac{3}{2}] \cup (1, +\infty) \quad (3)$$

$$\Rightarrow x^2 = \frac{2y+3}{y-1} \Rightarrow x = \sqrt{\frac{2y+3}{y-1}} \Rightarrow R_f = (-\infty, -\frac{3}{2}] \cup (1, +\infty)$$

$$y = |x| - 1 \Rightarrow |x| = y + 1 \Rightarrow |x| = y + 1 \Rightarrow |x| = y + 1 \Rightarrow R_f = [-1, +\infty)$$

$$R_f = [-1, +\infty)$$

$$x^2 y - 2xy = 1 \Rightarrow xy(x-2) = 1 \Rightarrow xy = \frac{1}{x-2} \Rightarrow R_f = \mathbb{R} \setminus \{0\}$$

$$y = x^2 - 4x + 2 \Rightarrow x^2 - 4x + 2 = y \Rightarrow x^2 - 4x = y - 2 \Rightarrow x^2 - 4x + 4 = y - 2 + 4 \Rightarrow (x-2)^2 = y + 2 \Rightarrow x-2 = \sqrt{y+2} \Rightarrow x = 2 + \sqrt{y+2} \Rightarrow R_f = [-2, +\infty)$$

$$y = x^2 - 4x + 2 \Rightarrow x^2 - 4x + 2 = y \Rightarrow x^2 - 4x = y - 2 \Rightarrow x^2 - 4x + 4 = y - 2 + 4 \Rightarrow (x-2)^2 = y + 2 \Rightarrow x-2 = \sqrt{y+2} \Rightarrow x = 2 + \sqrt{y+2} \Rightarrow R_f = [-2, +\infty)$$

a) $y = \sqrt{x^2 - 2x + 2}$ Min y $R_f = \sqrt{[-1, +\infty)} \cup [0, +\infty)$ (4)

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-) $y = \sqrt{-x^2 + 6x + 10}$ Max y $R_f = \sqrt{[-\infty, +1]} = [0, \sqrt{11}]$

$-x^2 + 6x + 10, 11$

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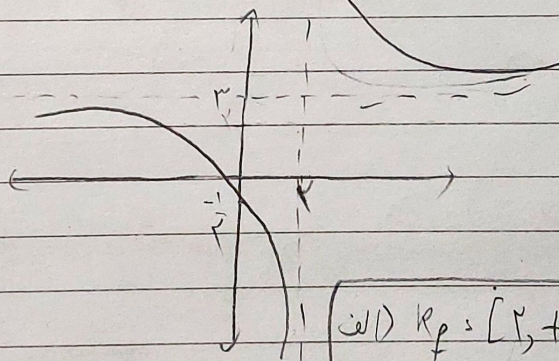
10) $R_f = \mathbb{R}$ (5)

12) $R_f = [0, +\infty)$

14) $R_f = \mathbb{R} - \{x\}$ (7)

16) $R_f = \sqrt{\mathbb{R} - \{x\}} \cup [0, +\infty) - \{x\}$

18) $y = \frac{x+1}{x-2}$



24) $R_f = [2, +\infty)$ (10)

26) $y = \frac{x^2 - 1}{x + 1} = \frac{(x-1)(x+1)}{x+1} = x-1$ $R_f = (-\infty, -1] \cup [1, +\infty)$

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