

$$2 - \left(-1, \frac{1}{2} \right) (1, -4) (3, -1)$$

$$D_f \cap D_g = \{3, -2, 2\} \quad -f$$

$$\left\{ (1, \infty) (3, \infty) (-2, 4) \right\}$$

$$D_f \cap D_g = \{0, 1, 3\} \quad -\infty$$

$$x \geq 0 \quad x \neq 2 \quad \downarrow \quad \rightarrow R \quad \{0, 1, 3\} \quad \text{دامنه } \left(\frac{f}{g} \right) \text{ می شود}$$

$$\sqrt{x-2} \geq 0 \quad \sqrt{x}(\sqrt{4}-\sqrt{x}) \geq 0 \quad \frac{x}{4} - \frac{0}{4} + \frac{4}{4} - \frac{x}{4} \sim D_g = [0, 2) \cup (2, 4]$$

$$\omega x - x^2 - 4 \geq 0 \quad x^2 - \omega x + 4 \leq 0 \quad (x-1)(x-3) \leq 0 \quad -4$$

$$\left\{ (1, 0) \left(2, \frac{1}{\sqrt{4}} \right) (4, 0) \right\} \quad \left[\begin{array}{l} D_f \cap D_g = \{1, 2, 4\} \\ [1, 4] \end{array} \right]$$

-v

$$y = x^w - w x^v + w x - 1 + 1 \quad (x-1)^w + 1 = y$$

$$y-1 = (x-1)^w \quad \sqrt[w]{y-1} = x-1 \quad \sqrt[w]{y-1} + 1 = x \quad R = \mathbb{R}$$

$$y = \frac{1}{x^v - vx} \quad y x^v - vx y - 1 = 0 \quad R = \mathbb{R} - (-1, 0] \quad (-\infty, -1] \cup (0, +\infty)$$

$$x^v - vx - \frac{1}{y} = 0 \quad x = \frac{v \pm \sqrt{v^2 + \frac{4}{y}}}{2} \quad v^2 + \frac{4}{y} \geq 0$$

$$\Delta = v^2 + \frac{4}{y} \quad \text{VIHAN} \quad \frac{v}{2} - \frac{1}{2} \geq \frac{v^2 + 4}{y} \geq 0$$

$$\sqrt{x+f}\sqrt{x-f} + \sqrt{x-f}\sqrt{x-e} = a+b\sqrt{x+c} \quad -1$$

$$\sqrt{x-f+f}\sqrt{x-f+f} + \sqrt{x-f-f}\sqrt{x-e+e} = a+b\sqrt{x+c}$$

$$\sqrt{(\sqrt{x-f}+f)^2} + \sqrt{(\sqrt{x-e}-f)^2} = \sqrt{x-f}+f + \sqrt{x-f}-f$$

$$f\sqrt{x-f} = a+b\sqrt{x+c} \quad c=-f \quad b=f \quad a=0$$

$$\frac{f}{-f} = \frac{-1}{f}$$

$$Dg \cap Df = \{0, 2\} \quad -2$$

$$Df = (x-3)(x-1) \sim R - \{1, 3\}$$

$$\frac{g}{f} = \left\{ (0, 4), \left(2, \frac{-1}{f} \right) \right\}$$

$$f(0) = \frac{f}{f}$$

$$f(2) = -f$$

$$\frac{f}{f} \sim \frac{f}{f} = 1$$

$$\text{اف} = 4x=1 \quad \left\{ \left(\frac{1}{f}, 2 \right) \left(\frac{3}{f}, -1 \right) (2, 2) \left(-\frac{1}{f}, 4 \right) \right\} \quad -3$$

$$\text{ب.} \quad \left\{ (+1, 2) (-1, 2) (\sqrt{3}, -1) (-\sqrt{3}, -1) (+2, 2) (-2, 2) \right\}$$

$$\text{ج.} \quad \left\{ (-2, 4) (1, 3) (3, 14) (-1, 3) \right\}$$

الف - $x_5 = \frac{f}{v} = 2$ $y_5 = \frac{-f}{-v} + 10 = 4$ $[4, +\infty)$ -1

ب - $x_5 = \frac{-4}{-2} = 2$ $y_5 = -9 + 18 + 2 = 11$ $(-\infty, 11]$

ج - $x_5 = \frac{f}{v} = 2$ $y_5 = f - 18 - 2 = -17$ $\sqrt{(-17, +\infty)} = [0, +\infty)$

د - $x_5 = \frac{-4}{-2} = 2$ $y_5 = 18 - 9 = 9$ $\sqrt{(-\infty, 9]} = [0, 9]$

الف - $\mathbb{R}$ ب - $\mathbb{R}$ ج - $\mathbb{R}^+ \cup \{0\}$ -9
↓

د - $\mathbb{R}^+ \cup \{0\} \rightarrow [0, +\infty)$ $[0, +\infty)$

الف - $x = \frac{y+1}{y-2} = y$ $x = \frac{y+1}{y-2}$ $R = \mathbb{R} - \{2\}$ -10

ب - $x = \frac{y+1}{y-2} = y$ $x = \frac{-y+1}{y-2} \rightarrow R = \mathbb{R} - \{2\}$