

$$y = \sqrt{x f(x)}$$

$$x f(x) > 0$$

$$D_f = [-4, 0] - ([4, -5] \cup [0, 2])$$

$$\begin{array}{ccccccc} & -4 & & -5 & & 2 & & 5 \\ \hline & \cancel{+} & & \cancel{-} & & \cancel{+} & & \cancel{-} \end{array}$$

$$D_f = [-5, 0] \cup [2, 5]$$

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$$y = \sqrt{\frac{-x}{f(x)}}$$

$$\frac{-x}{f(x)} > 0$$

$$D_f = (-3, 0) \cup (0, 2) \checkmark$$

در ساطع اعداد صحیح

$$A = \{-2, -1, 1\}$$

$$h_A = 3$$

است (۲)

پس بازه‌های x و y و $f(x)$ است یا x و $f(x)$ است به نظر است

$$f(x) - 2f(2) = x^2 - 3x + 4$$

$$f(x) - 2f(2) = x^2 - 3x + 4$$

$$\stackrel{x=2}{=} f(2) - 2f(2) = 4 - 4 + 4 = 4 \Rightarrow f(2) = -2 \checkmark$$

$$\stackrel{x=-2}{=} f(-2) - 2f(-2) = 4 + 4 + 4 = 12$$

$$f(-2) + 4 = 12 \Rightarrow f(-2) = 8$$

(۲)

$$f(f(0)) + f(f(1)) =$$

$$f(f(0)) = f(2) = 7$$

$$f(f(1)) = f(0) = 2$$

$$7 + 2 = 9 \checkmark$$

(۲)

$$f(x) \rightarrow x=1 \Rightarrow 2a-b$$

$$x=1 \Rightarrow f(x-1) = 2$$

$$f(x-1) - f(x) = 4x+2 \rightarrow 2 - (2a-b) = 4+2$$

$$\Rightarrow a-b = -1$$

(۲)

$$f(x) = \frac{x^2 + \varepsilon x + 0}{x^2 + \varepsilon x + v}$$

$$f(\sqrt{v}-v) = \frac{(\sqrt{v}-v)^2 + \varepsilon(\sqrt{v}-v) + 0}{(\sqrt{v}-v)^2 + \varepsilon(\sqrt{v}-v) + v} = \frac{v - \varepsilon\sqrt{v} + \varepsilon\sqrt{v} - \varepsilon + 0}{v - \varepsilon\sqrt{v} + \varepsilon\sqrt{v} - \varepsilon + v} = \frac{\varepsilon}{4} \left(\frac{v}{v} \right) \checkmark \textcircled{2}$$

$$x - \frac{1}{x} = -v$$

$$\frac{x^2 - 1}{x} = -v$$

$$\frac{x^2 - 1}{x} + v = 0$$

$$x^2 + vx - 1 = 0$$

$$\textcircled{1,0}$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-v \pm \sqrt{v^2 + 4}}{2}$$

خفى غير قابل قبول

$\Rightarrow$

$$\frac{(-v + \sqrt{v^2 + 4})^2}{(-v + \sqrt{v^2 + 4})^2}$$

$$f(v) = \frac{(v+v)^2 + 1}{(v+v)^2 + v}$$

$$f(\sqrt{v}-v) = 11$$

$$9 - x^2 \geq 0$$

$$x^2 \leq 9$$

$$-3 \leq x \leq 3$$

$$Dg = [-3, 3]$$

$$D_f \cap Dg = \{0, 1, 2\}$$

$$g(x) = \{(0, 3), (1, \sqrt{8}), (2, \sqrt{5}), \dots\}$$

$$f(x) = \{(2, 0), (1, -\varepsilon), (0, 2), (v, 1)\}$$

$$\textcircled{2}$$

$$\frac{f}{g} = \{(0, \frac{3}{4}), (1, \sqrt{8}), (2, 0)\}$$

$$\frac{g}{f} = \{(0, \frac{3}{4}), (1, -\frac{\sqrt{8}}{1}), (2, \frac{0}{2})\} = \{(0, \frac{3}{4}), (1, -\frac{\sqrt{8}}{1})\}$$

$$f(x) = \{(2, 2), (3, 1), (-2, \varepsilon), (1, -\varepsilon)\} \checkmark$$

$$\textcircled{1,0}$$

$$f(x) = \{(2, 2), (3, 0), (-2, 3), (1, -1)\} \checkmark$$

$$f(x) = \{(2, 1), (4, \varepsilon), (-1, 2), (2, -2)\}$$

$$f(x) + 1 = \{(2, \varepsilon), (3, \varepsilon), (-2, 3), (1, 3)\} \checkmark$$

$$\downarrow \{(1, 1), (\frac{3}{4}, 1), (-\frac{0}{4}, 1), (\frac{1}{4}, -1)\}$$

$$f - g = \{(2, 2), (1, \varepsilon), (3, 1)\} \checkmark$$

$$\frac{f}{g} = \{(2, 4), (1, \frac{0}{1}), (3, -1)\} = \{(2, 4), (3, -1)\} \textcircled{2}$$