

$$y = \sqrt{x f(x)} \rightarrow x f(x) \geq 0 \rightarrow D_f = [-2, 5] - ([0, 2) \cup [3, 5])$$

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$$y = \sqrt{\frac{-x}{f(x)}} \rightarrow \frac{-x}{f(x)} \geq 0 \rightarrow D_f = (-3, 0) \cup (0, 2) \rightarrow \underbrace{-2, -1, 0, 1, 2}_{\text{اعداد صحیح}}$$

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

$$x = -2 \rightarrow f(-2) - 2f(2) = 4 + 4 + 4 = 12 = f(-2)$$

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$$\left. \begin{array}{l} f(f(5)) = f(2) \rightarrow f(2) = 7 \\ f(f(1)) = f(5) \rightarrow f(5) = 2 \end{array} \right\} 7 + 2 = 9$$

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$$f(x) \rightarrow x = 1 \rightarrow 2 + a - b \quad \left| \quad x = 1 \rightarrow f(x-1) = 2 \right.$$

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$$\text{سوال} \rightarrow f(x-1) - f(x) = 6x + 2 \rightarrow 2 - (2 + a - b) = 6 + 2$$

$$a - b = -1$$

به جای x قرار می دهیم $\sqrt{3}-2$

$$\frac{(\sqrt{3}-2)^2 + 4(\sqrt{3}-2) + 5}{(\sqrt{3}-2)^2 + 4(\sqrt{3}-2) + 7} = \frac{9 - 4\sqrt{3} + 4\sqrt{3} - 8 + 5}{9 - 4\sqrt{3} + 4\sqrt{3} - 8 + 7} = \frac{6}{8} = \frac{3}{4}$$

$$f(x - \frac{1}{x}) = \frac{x^4 + 1}{x^2} \rightarrow x^2 + \frac{1}{x^2} = (x - \frac{1}{x}) + 2 \rightarrow 11 = f(-3)$$

$$g(x) = \sqrt{9 - x^2} \rightarrow g(x) = 9 - x^2 \geq 0 \rightarrow 9 \geq x^2 \rightarrow 3 \geq x \geq -3 \quad (\text{الف})$$

$$Dg \cap Df = \{2, 1, 0\} \quad \frac{f}{g} = \left\{ (0, \frac{2}{3}), (1, \sqrt{2}), (2, 0) \right\}$$

$$\frac{g}{f} = \left\{ (0, \frac{3}{2}), (1, -\frac{\sqrt{2}}{2}) \right\} \quad (\text{ب})$$

$$2f(x) = \{(2, 2), (3, 8), (-5, 4), (1, -4)\} \quad (\text{الف})$$

$$f(x) + 1 = \{(2, 2), (3, 5), (-5, 3), (1, -1)\} \quad (\text{ب})$$

$$3f^2(x) + 1 = \{(2, 4), (3, 29), (-5, 13), (1, 3)\} \quad (\text{ج})$$

$$f(2x) = \{(4, 1), (4, 4), (-10, 2), (2, -2)\} \quad (\text{د})$$

$$f - g = \{(2, 2), (1, 4), (3, 2)\} \quad (\text{الف})$$

$$\frac{2f}{g} = \left\{ (2, 6), (1, \frac{2}{\sqrt{2}}), (3, -2) \right\}$$

نقطه
صفر در مخرج است