

با دهم بر B ۲. افزین ۲. تلف ۲

مدرسه

$$f(x) = \begin{cases} (a+1)(x+2); & x > 1 \\ 2a+x & ; x \leq 1 \end{cases} \quad \text{و } f(2) = f(-2) + a$$

$$f(2) = (a+1)(2) = 2a+2 \quad \text{و } f(2) = 12a+12 \quad \Rightarrow 12a+12 = 2a-2+a$$

$$f(x) \xrightarrow{x \leq 1} 2a-x \quad 10a = -12 \quad a = -1.2$$

$$f(x) = \sqrt{x} + \frac{1}{\sqrt{x}} + 2 \quad f(2-\sqrt{2}) + f(2+\sqrt{2})$$

$$\sqrt{2-\sqrt{2}} + \frac{1}{\sqrt{2-\sqrt{2}}} + 2 + \sqrt{2+\sqrt{2}} + \frac{1}{\sqrt{2+\sqrt{2}}} + 2 = \frac{2-\sqrt{2}}{\sqrt{2-\sqrt{2}}} + \frac{2+\sqrt{2}}{\sqrt{2+\sqrt{2}}} + 4$$

$$\sqrt{2+\sqrt{2}} + \frac{1}{\sqrt{2+\sqrt{2}}} + 2 = \frac{2+\sqrt{2}+1}{\sqrt{2+\sqrt{2}}} + 2 = \frac{3+\sqrt{2}}{\sqrt{2+\sqrt{2}}} + 2$$

$$\frac{2-\sqrt{2}}{\sqrt{2-\sqrt{2}}} + \frac{3+\sqrt{2}}{\sqrt{2+\sqrt{2}}} = 4$$

لا غلط حل درست آخر تکلیف

$$(2f(x) - 2f(-x)) = 2x^2 - x \quad (2f(-x) - 2f(x)) = 2x^2 + x$$

$$2f(x) - 4f(-x) = 12x^2 - 2x \quad 4f(-x) - 9f(x) = 12x^2 + 2x$$

$$\begin{cases} -2f(x) = 20x^2 + x \Rightarrow f(x) = -10x^2 - \frac{x}{2} \end{cases}$$

$$(x+2)f(x) - 2xf(x+2) = 2x^2 - mx + (m-1)$$

$$2f(0) = 2m-1 \quad f(0) = \frac{2m-1}{2} \quad 10f(0) = 10m-5 \quad f(0) = \frac{2m-1}{2}$$

$$x=2 \rightarrow (0)f(0) + 4f(0) = 14 + 2m + m-1 \quad -11f(0) = -10m-5 \quad 11f(0) = 10m+5$$

$$4f(0) = 2m+1$$

$$f(x) + f\left(\frac{1}{x}\right) = \frac{2x^2 - 12x + 2}{x} \quad x=-1 \rightarrow 2f(-1) = -12 \rightarrow f(-1) = -6$$

$$\begin{cases} f(x) = (x-1)\sqrt{1-x} & Df = (-\infty; 1] \\ g(x) = -\sqrt{(1-x)^3} & Dg = (-\infty; 1] \end{cases} \quad x=0 \rightarrow f(0) = -1 \quad f(0) = -1$$

$$x=-1 \rightarrow f(-1) = -2\sqrt{2} \quad x=1 \rightarrow f(1) = 0 \quad g(1) = 0$$

$$\begin{cases} f(x) = x\sqrt{x} & Df = [0, +\infty) \\ g(x) = \sqrt{x} & Dg = [0, +\infty) \end{cases} \xrightarrow{x=0} \begin{matrix} f(0) = 0 \\ g(0) = 0 \end{matrix} \quad \begin{matrix} x=y \\ f(x) = x\sqrt{x} \\ g(x) = \sqrt{x} \end{matrix} \quad (V) \quad \text{برای هر دو}$$

$$\begin{cases} f(x) = [\sqrt{x} - \sqrt{x}] & Df = [0, +\infty) \\ g(x) = \sqrt{x-1} & Dg = [0, +\infty) \end{cases} \quad \begin{matrix} f(\frac{1}{x}) = [\sqrt{\frac{1}{x}} - \sqrt{\frac{1}{x}}] = 0 \\ g(\frac{1}{x}) = 0 \end{matrix} \quad (A) \quad \text{برای هر دو}$$

$$f(x) = [\sqrt{x} - \sqrt{x}] = 0$$

$$g(x) = \sqrt{x-1} = 0$$

$$\text{الف) } \left(\frac{f+g}{f-g} \right)(1) = \frac{2}{1} = 2$$

$$\text{ب) } \left(\frac{f+g}{f-g} \right)(x) = \frac{4}{0} \quad \text{تعیین نشده}$$

$$\text{ج) } f(0)g(-1) = 0 \times 1 = 0$$

$$f(x) = \{(x, 1), (-1, 4), (0, 5), (-x, x), (x, -1)\} \quad (B)$$

$$\text{الف) } g(x) = f(2x-1) \quad \begin{matrix} 2x-1=2 & x=1 \\ 2x-1=-1 & x=0 \\ 2x-1=0 & x=\frac{1}{2} \end{matrix} \quad \begin{matrix} 2x-1=-x & x=-\frac{1}{3} \\ 2x-1=x & x=\frac{1}{2} \end{matrix}$$

$$\rightarrow g(x) = \{(1, 1), (0, 4), (\frac{1}{2}, 5), (-\frac{1}{2}, 1), (\frac{1}{2}, -1)\}$$

$$\text{ب) } h(x) = f(|x|)$$

$$h(x) = \{(x, 1), (x, 1), (0, 5), (-x, x), (x, -1)\}$$

$$f(x) = \sqrt{x} + \frac{1}{\sqrt{x}} + 2 \quad A^2 = x + \sqrt{x} + 2 - \sqrt{x} + 2\sqrt{x} - x \rightarrow A = \pm\sqrt{4} \quad (C)$$

$$-\sqrt{4} \rightarrow \text{قبول}$$

$$f(x+\sqrt{x}) + f(x-\sqrt{x}) = (\sqrt{x+\sqrt{x}} + \sqrt{x-\sqrt{x}}) + \frac{1}{\sqrt{x+\sqrt{x}}} + \frac{1}{\sqrt{x-\sqrt{x}}} + 2$$

$$2A + 2 = 2\sqrt{4} + 2 \quad \sqrt{x-x} = 1 \rightarrow \text{مجموعه حل}$$