

پایه نهم ریاضی

$-2 \leq 1 \Rightarrow 3a + (-2) = f(-2) \quad f(a) = 2 \Rightarrow 2 > 1 \Rightarrow 7a + 7 \quad 2(7a + 7) = 3a - 2 + a$

$1(3a + 1) = 3a - 2 + a \quad a = -\frac{3}{4}$

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$$\left. \begin{aligned} f(2+\sqrt{3}) &= \sqrt{2+\sqrt{3}} + \frac{\sqrt{2-\sqrt{3}}}{\sqrt{(2+\sqrt{3})(2-\sqrt{3})}} + 2 = \sqrt{2+\sqrt{3}} + \sqrt{2-\sqrt{3}} + 2 \\ f(2-\sqrt{3}) &= \sqrt{2-\sqrt{3}} + \frac{\sqrt{2+\sqrt{3}}}{\sqrt{(2-\sqrt{3})(2+\sqrt{3})}} + 2 = \sqrt{2-\sqrt{3}} + \sqrt{2+\sqrt{3}} + 2 \end{aligned} \right\} \Rightarrow 2\sqrt{3} + 4$$

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$$\left. \begin{aligned} x=x \rightarrow (2f(x) - 3f(-x)) &= (2x^2 - x) \times 2 \rightarrow 4f(x) - 3f(-x) = 4x^2 - 2x \\ x=-x \rightarrow (2f(-x) - 3f(x)) &= (2x^2 + x) \times 2 \rightarrow 4f(-x) - 3f(x) = 4x^2 + 2x \end{aligned} \right\} \Rightarrow -\Delta f(x) = 2 - x^2 + x$$

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

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$x=0 \rightarrow 2f(0) = 3m-1 \Rightarrow f(0) = \frac{3m-1}{2} \quad x=-2 \rightarrow 4f(0) = 12+3m+3m-1 \Rightarrow f(0) = \frac{12+4m}{4}$

$\frac{3m-1}{2} = \frac{12+4m}{4} \Rightarrow m = \frac{9}{2} \quad \frac{\frac{3 \times 9}{2} - 1}{2} = \frac{\frac{27}{2} - 1}{2} = \frac{25}{4} = f(0)$

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$\frac{x}{n} \times (ax + b + \frac{a}{n} + b) = \frac{rx^2 - 12x + 3}{n} \quad \frac{ax^2 + rx + a}{n} = \frac{rx^2 - 12x + 3}{n} \quad f(x) = rx - 6$
 $a=3 \quad b=-6 \quad \star x \neq 0 \quad f(-1) = -5 - 6 = -11$

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$$\left. \begin{aligned} f(x) &= (x-1)\sqrt{1-x} \rightarrow 1-x \geq 0 \rightarrow x \leq 1 \\ g(x) &= -\sqrt{(1-x)^3} \rightarrow 1-x \geq 0 \rightarrow x \leq 1 \end{aligned} \right\} D_f = D_g = \text{برای همه} \quad (-\infty, 1]$$

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$$\left. \begin{aligned} f(x) &= x\sqrt{x} \rightarrow x \geq 0 \\ g(x) &= \sqrt{x^3} \rightarrow x \geq 0 \end{aligned} \right\} D_f = D_g = [0, +\infty)$$

برای همه

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$$\left. \begin{aligned} f(x) &= [\sqrt{x} - \lfloor \sqrt{x} \rfloor] \rightarrow x \geq 0 \Rightarrow [0, +\infty) \\ g(x) &= \sqrt{x-|x|} \rightarrow x-|x| \geq 0 \rightarrow x \geq |x| \Rightarrow [0, +\infty) \end{aligned} \right\} D_f = D_g = [0, +\infty)$$

برای همه

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

تعریف شده چون در هر جایی

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

$$\text{الف) } \left(\frac{f+g}{f-g}\right)(1) = 3$$

$$\text{ب) } \left(\frac{f+g}{f-g}\right)(\frac{1}{2}) = 3$$

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

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$$\text{الف) } 2x-1=2 \Rightarrow x=1 \quad 2x-1=1 \Rightarrow x=0 \quad 2x-1=0 \Rightarrow x=\frac{1}{2} \quad 2x-1=-2 \Rightarrow x=-\frac{1}{2} \quad 2x-1=3 \Rightarrow x=2$$

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

$$\text{ب) } h(x) = \{(-2,1)(2,1)(0,2)(-3,-1)(3,1)\}$$

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