

$$2f(a) \rightarrow 2(a+1)(7)$$

$$f(-2) \rightarrow 3a - 4$$

$$a \rightarrow a$$

$$14a + 14 = 3a - 4 + a \rightarrow$$

$$10a = -18 \rightarrow a = -1.8$$

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

$$\frac{1}{\sqrt{2+\sqrt{3}}} \times \frac{\sqrt{2-\sqrt{3}}}{\sqrt{2-\sqrt{3}}} \rightarrow \sqrt{2-\sqrt{3}}$$

$$f(2-\sqrt{3}) + f(2+\sqrt{3}) \rightarrow$$

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

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

$$2A + 4 = 2\sqrt{4} + 4$$

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$$\sqrt{2+\sqrt{3}} + \sqrt{2-\sqrt{3}} = A$$

$$A^2 = 2 + \sqrt{3} + 2 - \sqrt{3} + 2\sqrt{4-3} = 6$$

$$A = \sqrt{6}$$

$$A^2 = 2 + \sqrt{3} + 2 - \sqrt{3} + 2\sqrt{4-3} = 6$$

$$\sqrt{2+\sqrt{3}} + \sqrt{2-\sqrt{3}} = A$$

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

$$2A + 4 = 2\sqrt{4} + 4$$

$$2f(x) - 3f(-x) = 4x^2 - 2 \xrightarrow{\times 2} 4f(x) - 6f(-x) = 8x^2 - 4$$

$$\text{if } x \rightarrow -x \quad 2f(-x) - 3f(x) = 4x^2 + 2 \xrightarrow{\times 2} 4f(-x) - 6f(x) = 8x^2 + 4$$

$$-4f(x) = 8x^2 + 4 \rightarrow f(x) = -\frac{2x^2 + 1}{1} \rightarrow f(x) = -2x^2 - 1$$

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$$(2f(0) = 3m - 1) \xrightarrow{\times 3} 6f(0) = 9m - 3$$

$$(4f(0) = 14 + 2m + 3m - 1) \rightarrow (4f(0) = 14 + 5m)$$

$$9m - 3 = 14 + 5m \rightarrow 4m = 17 \rightarrow m = 4.25$$

$$f(0) = 4.25$$

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$$\text{if } x \rightarrow -1$$

$$2f(-1) = \frac{3 + 12 + 3}{-1} \rightarrow -18$$

$$f(-1) = -9$$

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$\begin{cases} f(x) = (x-1)\sqrt{1-x} & Df \rightarrow (-\infty, 1] \\ g(x) = -\sqrt{(1-x)^3} & Dg \rightarrow (-\infty, 1] \end{cases}$ تساوی ✓ $-\sqrt{(1-x)^3} = -\sqrt{(1-x)^2(1-x)} \xrightarrow{\text{حقیقی و مثبت}} - 1-x \sqrt{1-x} \rightarrow (x-1)\sqrt{1-x}$	۶
$\begin{cases} f(x) = x\sqrt{x} & Df \rightarrow [0, +\infty) \\ g(x) = \sqrt{x^3} & Dg \rightarrow [0, +\infty) \end{cases}$ تساوی ✓ $x \sqrt{x} \xrightarrow{+b_0} x\sqrt{x}$	۷
$\begin{cases} f(x) = [\sqrt{x} - [\sqrt{x}]] & Df \rightarrow [0, +\infty) \\ g(x) = \sqrt{x - x } & Dg \rightarrow [0, +\infty) \end{cases}$ تساوی ✓ $\text{if } x \geq 0 \quad \sqrt{x - x } \Rightarrow 0$ $x - [x]$ $[x - [x]]$ 	۸
$Dg \cap Df \rightarrow \{1, 2, 3, 0\}$ الف) $\left(\frac{f+g}{f-g}\right)(1) \rightarrow \frac{2+1}{2-1} = 3$ ب) $\left(\frac{f+g}{f-g}\right)(2) \rightarrow \frac{3+3}{3-3} = \frac{6}{0} \times$ تن. ج) $f(0)g(-1) \rightarrow 0 \times 1 = 0$	۹
$f(x) = \{(2, 1), (-1, 4), (0, 5), (-2, 2), (3, -1)\}$ الف) $g(x) = f(3x-1)$ $g(x) = \{(1, 1), (0, 4), (\frac{1}{3}, 5), (-\frac{1}{3}, 2), (\frac{2}{3}, -1)\}$ ب) $h(x) = f(x)$ $h(x) = \{(2, 1), (-2, 1), (0, 5), (3, -1), (-3, -1)\}$	۱۰