

$$2(a+1)(v) = 3a - 1 + a \rightarrow 14a + 11 = 4a - 1 \rightarrow 10a = -12 \rightarrow a = -1/5$$

①

$$\frac{1}{v-\sqrt{v}} = v + \sqrt{v} \quad \begin{cases} \sqrt{v+\sqrt{v}} + \sqrt{v+\sqrt{v}} + v + \sqrt{v-\sqrt{v}} + \sqrt{v-\sqrt{v}} + v + \sqrt{v+\sqrt{v}} + \sqrt{v+\sqrt{v}} + v \\ \sqrt{v+\sqrt{v}} \times \sqrt{v-\sqrt{v}} = 1 \quad 2(\sqrt{v+\sqrt{v}} + \sqrt{v-\sqrt{v}}) \rightarrow 2\sqrt{v} + 2 \\ (\sqrt{v+\sqrt{v}} + \sqrt{v-\sqrt{v}})^2 = 4 + 2 \times 1 = 6 \rightarrow \end{cases}$$

②

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

③

$$2f(-x) - 2f(x) = 2x^2 + 4x \rightarrow 4f(-x) - 9f(x) = 12x^2 + 3x$$

$$-5f(x) = 2x^2 + x \rightarrow f(x) = -\frac{2}{5}x^2 - \frac{x}{5}$$

$$x=0 \rightarrow 2f(0) = 3m-1 \rightarrow f(0) = \frac{3m-1}{2}$$

$$x=-2 \rightarrow 4f(0) = 14 + 2m + 3m-1 \rightarrow \frac{12+5m}{4}$$

$$\left. \begin{matrix} \frac{3m-1}{2} \\ \frac{12+5m}{4} \end{matrix} \right\} \frac{3m-1}{2} = \frac{12+5m}{4}$$

④

$$12m-4 = 30 + 1.5m$$

$$12m = 34$$

$$m = \frac{34}{12} = \frac{17}{6}$$

$$f(x) = ax+b \rightarrow f\left(\frac{1}{x}\right) = \frac{a}{x} + b$$

⑤

$$ax+b + \frac{a}{x} + b = 2b + \frac{a}{x} + ax = \frac{3x^2 - 12x + 3}{x} \rightarrow 2b + \frac{a}{x} + ax = 3x - 12 + \frac{3}{x}$$

$$a=3 \quad b=-4 \quad a=3$$

$$f(x) = 3x-4 \rightarrow f(-1) = -3-4 = -7$$

$$f\left(\frac{1}{x}\right) = \frac{3}{x} - 4$$

⑥

$$f(x) \rightarrow 1-x \gamma_{10} \rightarrow 17x$$

$$g(x) \rightarrow (1-x)^2 \gamma_{10} \rightarrow 1-2x+2x^2-x^2 \gamma_{10}$$

دامنه حیات

$$2x^2 - 2x + 1 \gamma_{10}$$

$$x^2 - 2x + 2 \gamma_{10}$$

$$(x-1)(x-2) \gamma_{10}$$

$$\frac{1}{x-1} + \frac{1}{x-2} +$$

$$(-\infty, 1] \cup [2, +\infty)$$

$$x \neq 0$$

$$1 \times \sqrt{1} = 1$$

$$2 \times \sqrt{2}$$

$$3 \times \sqrt{3}$$

(7)

$$x \neq 0$$

دامنه ها برابر

$$\sqrt{1} = 1$$

$$\sqrt{2} = 2 \times \sqrt{2}$$

$$3 \times \sqrt{3}$$

دامنه ها برابر ✓

$$x \neq 0$$

براکت بهر حال منفی می باشد $x \neq 0 \rightarrow$

دامنه برابر

دامنه ها برابر ✓

$$x - \ln|x| \quad x \neq 0 \quad \begin{matrix} 0 \\ + \\ - \end{matrix} \quad R^+ \quad x \neq 0$$

$$\begin{aligned} f+g & \{ (1,3), (2,4), (3,4), (0,2) \} \\ f-g & \{ (1,-1), (2,0), (3,4), (0,2) \} \end{aligned} \quad \left\{ \begin{aligned} & \{ (1,3), (2,4), (3,4), (0,2) \} \rightarrow 1 \\ & \frac{f+g}{f-g}(1) = -3 \end{aligned} \right.$$

الف

$$\frac{f+g}{f-g}(2) = \text{تعریف نشده}$$

ب

$$\begin{aligned} f(0) &= 1 \\ g(-1) &= 1 \end{aligned} \quad \left\{ \begin{aligned} & 9 \times 1 = 9 \end{aligned} \right. \quad \text{ج}$$

د

$$f(x-1) \rightarrow \{ (2,2), (-1,11), (0,14), (-2,5), (3,-3) \}$$

ه

$$f(|x|) \rightarrow \{ (2,1), (-1,4), (0,5), (-2,2), (3,1) \}$$