

$$\begin{aligned} f(a) &\Rightarrow (a+1) \times v \\ f(-1) &\Rightarrow 3a - k \end{aligned} \quad \left\{ \begin{aligned} k(a+1) &= 3a - k + a = 4a - k \Rightarrow 14a + 1k = 6a - k \\ 10a &= -1k \\ a &= -1, 1 \end{aligned} \right.$$

$$\begin{aligned} &\sqrt{2-\sqrt{3}} + \left(\frac{1}{\sqrt{2-\sqrt{3}}} \times \frac{\sqrt{2+\sqrt{3}}}{\sqrt{2+\sqrt{3}}} \right) + 2 + \sqrt{2+\sqrt{3}} + \left(\frac{1}{\sqrt{2+\sqrt{3}}} \times \frac{\sqrt{2-\sqrt{3}}}{\sqrt{2-\sqrt{3}}} \right) + 2 = \\ &\sqrt{2-\sqrt{3}} + \sqrt{2+\sqrt{3}} + 2 + \sqrt{2+\sqrt{3}} + \sqrt{2-\sqrt{3}} + 2 = \\ &2\sqrt{2-\sqrt{3}} + 2\sqrt{2+\sqrt{3}} + 4 = 2\sqrt{\frac{4}{2}} - 2\sqrt{\frac{1}{2}} + 2\sqrt{\frac{4}{2}} + 2\sqrt{\frac{1}{2}} + 4 = 4\sqrt{\frac{4}{2}} + 4 = 4\sqrt{2} + 4 \\ &\Rightarrow \sqrt{\left(\frac{1}{\sqrt{2}} - \frac{\sqrt{3}}{\sqrt{2}} \right)^2} = \left| \frac{1}{\sqrt{2}} - \frac{\sqrt{3}}{\sqrt{2}} \right| = \sqrt{\frac{4}{2}} - \sqrt{\frac{1}{2}} \end{aligned}$$

$$\begin{aligned} 2f(n) - 3f(-n) &= 4n^2 - n \quad (\times 1) \rightarrow 4f(n) - 9f(-n) = 16n^2 - 4n \\ 2f(-n) - 3f(n) &= 4n^2 + n \quad (\times 3) \rightarrow 4f(n) - 9f(n) = 12n^2 + 3n \\ &\quad - 5f(n) = 20n^2 + n \\ f(n) &= \frac{-20n^2 - n}{5} \end{aligned}$$

$$\begin{aligned} 2f(0) &= 3m - 1 \\ 4f(0) &= 4(4) - m(-1) + 3m - 1 = 19 + 3m - 1 = 5m + 18 \\ 3(3m - 1) &= 5m + 18 \Rightarrow 9m - 3 = 5m + 18 \Rightarrow 4m = 21 \Rightarrow m = \frac{21}{4} \\ 3(2f(0)) &= 4f(0) \\ 2f(0) &= \frac{3 \times 21}{4} - 1 \Rightarrow f(0) = \frac{9, 25}{4} \end{aligned}$$

$$f(-1) + f(-1) = 2f(-1) \Rightarrow 2f(-1) = \frac{3 + 12 + 3}{-1} \Rightarrow f(-1) = -9$$

$$an + b + \frac{a}{n} + b = \frac{3n^2 - 12n + 3}{n} = \frac{an^2 + bn + a + bn}{n} \Rightarrow \begin{aligned} a &= 3 \\ b &= -4 \end{aligned}$$

$$f(n) = 3n - 4 \Rightarrow f(-1) = -9$$

$- \sqrt{(1-x)^3} = -\sqrt{(1-x)^2(1-x)} =$ $- 1-x \times \sqrt{1-x} = (x-1)\sqrt{1-x} \Rightarrow f(x) = g(x) \checkmark$ برابرند	دامنه ها برابر است: $D_f = [-1, 1]$ ۶
$\sqrt{x^3} = \sqrt{x^2} \times \sqrt{x} = x \sqrt{x} = x\sqrt{x}$ $f(x) = g(x) \checkmark$ برابرند	دامنه ها برابر است: $D_f = [0, +\infty)$ ۷
$f(x) = g(x) \Leftrightarrow \left\{ \begin{array}{l} x=0 \\ x>0 \end{array} \right.$	دامنه ها برابر است: $D_f = x \geq 0$ $\begin{array}{l} \circ \leftarrow x=0 \\ \circ \leftarrow x>0 \end{array} \leftarrow f(x)$ $\begin{array}{l} \circ \leftarrow x=0 \\ \circ \leftarrow x>0 \end{array} \leftarrow g(x)$ ۸
الف) $\frac{2+1}{2-1} = 3$ ب) $\frac{3+3}{3-3} \rightarrow \text{تعیین نشده}$ ج) $0 \times 1 = 0$	۹
الف) $g(x) = \left\{ (1, 1), (0, 4), \left(\frac{1}{3}, 5\right), \left(\frac{-1}{3}, 2\right), \left(\frac{x}{3}, -1\right) \right\}$ ب) $h(x) = \left\{ (2, 1), (-2, 1), (0, 5), (3, -1), (-3, -1) \right\}$	۱۰