

۲. افزین تابعی نوشتن

$$1- \quad 2(a+1)(\delta+1) = 3a + 2(-2) + a \Rightarrow 14a + 14 = 4a - 4 \Rightarrow 10a = -18 \Rightarrow a = -1.8$$

$$2- \quad f\left(\frac{\varepsilon - \sqrt{\varepsilon}}{2}\right), f\left(\frac{\varepsilon + \sqrt{\varepsilon}}{2}\right), f\left(\frac{(\sqrt{\varepsilon} - 1)^2}{2}\right), f\left(\frac{(\sqrt{\varepsilon} + 1)^2}{2}\right)$$

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

$$= \frac{\varepsilon\sqrt{\varepsilon}}{\sqrt{\varepsilon}} + 4 = \sqrt{\varepsilon} + 4$$

$$3- \quad \begin{cases} f(x) - cf(-x) = \varepsilon x^r - u \\ f(-x) - cf(x) = \varepsilon x^r + u \end{cases} \quad \begin{cases} \times 1 \\ \times c \end{cases} \Rightarrow \begin{cases} f(x) - \gamma f(-x) = \Lambda x^r - \varepsilon u \\ \gamma f(-x) - cf(x) = 14x^r + cu \end{cases}$$

$$\Rightarrow -\gamma f(x) = \varepsilon \cdot x^r + u \Rightarrow f(x) = -\varepsilon x^r - \frac{u}{\gamma}$$

$$u = 0 \Rightarrow cf(0) = \varepsilon m - 1, \quad u = -2 \Rightarrow cf(0) = \gamma m + 1$$

$$\Rightarrow \varepsilon(\varepsilon m - 1) = \gamma m + 1 \Rightarrow 4m - 5 = \gamma m + 1 \Rightarrow \varepsilon m = 18 \Rightarrow m = 4.5$$

$$cf(0) = \varepsilon(\varepsilon, \gamma) - 1 \Rightarrow f(0) = \underline{4.5}$$

$$8- \quad f(x) + f\left(\frac{1}{x}\right) = ax + b + \frac{a}{x} + b = \frac{ax^2 + 2bx + a}{x} = \frac{\varepsilon x^2 - 14x + \varepsilon}{x}$$

$$\Rightarrow a = \varepsilon, \quad b = -9 \Rightarrow f(x) = \varepsilon x - 9 \Rightarrow f(-1) = \underline{-9}$$

$$9- \quad D_f = (-\infty, 1] \quad , \quad D_g = (-\infty, 1] \Rightarrow \text{دامنه برابر}$$

$$t = 1 - u \Rightarrow -t\sqrt{t} = f(u) \Rightarrow f(u) = g(u) = -\sqrt{t} = -g(u)$$

تابع برابرند

دامنه‌ها برابر $\Rightarrow D_f = [0, +\infty)$, $D_g = [0, +\infty)$ ✓

در تابع برابر $\Rightarrow f(u) = u\sqrt{u} = \sqrt{u^3} = g(u) = \sqrt{u^3}$ ($u \geq 0$) ✓

$D_f = [0, +\infty)$, $D_g = [0, +\infty)$

در تابع برابر ✓

$f(u) = g(u) \Rightarrow f(u) = g(u)$ ✓

الف) $\frac{f(x) + g(x)}{f(x) - g(x)} = \frac{x+1}{x-1} = x$ ج) $f(0)g(-1) = 0 \times (-1) = 0$ ✓

ب) $\frac{f(x) + g(x)}{f(x) - g(x)} = \frac{x^2 + x}{x^2 - x}$ تقریب زنی ✓

الف) $3x - 1 = g(x) = \left\{ (1, 1), (0, -1), \left(\frac{1}{2}, 0\right), \left(-\frac{1}{2}, 2\right), \left(\frac{2}{3}, -1\right), (-1, -1) \right\}$ ✓

ب) $|u| = 2, 3, 0$ عضوهای دامنه $|u|$ ✓

$\Rightarrow h(u) = \left\{ (2, 1), (-2, 1), (0, 0), (3, -1), (-3, -1) \right\}$ ✓