

$$f(x) - x + 1 \geq 0 \rightarrow f(x) - x \geq -1$$

$$\left. \begin{array}{l} x \geq \omega \rightarrow 2x - 1 - x = x - 1 : \text{هوا، برقرار} \\ x < \omega \rightarrow x_{n+1}^2 - x = x_{n+1}^2 \rightarrow x_{n+1}^2 \geq -1 \rightarrow x \geq -\frac{1}{x} \end{array} \right\} \rightarrow D = \left[-\frac{1}{\omega}, +\infty\right)$$

$$y = \frac{2x^2 + 4x^2 + 1(x+1)^2}{(x^2 + x + 1)^2} = \frac{2(x+1)^2}{(x+1)^2} \rightarrow \frac{2}{x+1} : D = \mathbb{R} - \left\{-\frac{1}{2}\right\}$$

$$x=0 \rightarrow g(0)=c, f(0)=2 \Rightarrow c=2$$

$$\left. \begin{array}{l} g(1)=2, f(1)=\frac{a+2}{1+b} \rightarrow a+2=2+2b \rightarrow \begin{cases} a-2b=1 \\ a+b=2 \end{cases} \Rightarrow b=\frac{1}{3}, a=\frac{5}{3} \\ g(-1)=1, f(-1)=\frac{2-a}{b-1} \rightarrow 2-a=b-1 \rightarrow \begin{cases} a-2b=1 \\ a+b=2 \end{cases} \Rightarrow b=\frac{1}{3}, a=\frac{5}{3} \end{array} \right\} \Rightarrow b=\frac{1}{3}, a=\frac{5}{3}$$

$$\Rightarrow 0, \omega + 2 = 2, \omega$$

$$D_f = D_g, f(x) = g(x) \rightarrow g(x) = \frac{(x+1)(x-1)}{x^2 + ax + b} \rightarrow x^2 + ax + b = (x-1)^2 \Rightarrow a = -2, b = 1, c = 1 \Rightarrow a+b+c = 0$$

$$\left. \begin{array}{l} f(x+1) = (x+1-2)^2(x+1-1) = (x-1)^2 x = x^2 - 2x^2 + x \\ f(1-x) = (1-x-2)^2(1-x-1) = (-x-1)^2(-x) = -x^2 - 2x^2 - x \end{array} \right\} \Rightarrow g(x) = -18x^2$$

$$1-2x=2 \rightarrow x=-1 \Rightarrow f(2) = \sqrt[2]{-1} + 2 = 1 \Rightarrow 1+2=\omega$$

$$1-2x=1 \rightarrow x=0 \Rightarrow f(-1) = \sqrt[2]{1} = 2$$

$$x + \sqrt{x} = 4 \rightarrow x = 4 \Rightarrow f(4) = 4^2 + 2(4) = 248$$

$$f(x) = x^2 + x \xrightarrow{\text{بجای } x} f(-x) = -x^2 - x : 1-x = -(x-1) \\ f(-x) = -f(x)$$

$$f(1-x) = f(-(x-1)) = -f(x-1) \Rightarrow f(x-1) + f(1-x) = f(x-1) - f(x-1) = 0$$

$$b - 2x \geq 0 \rightarrow b = 2 \quad 2x - 2a \geq 0 \rightarrow \frac{2}{x} = a$$

$$2f - g(1) = 2k - 2 - 2k = k \rightarrow 2k = 2 \rightarrow k = 1 \Rightarrow 2a - \frac{b}{2} - k = 2 - 2 + 1 = 1$$

$$D_{f \vee g} = D_f \cap D_g \rightarrow D_f \cap [-1, +\infty) \Rightarrow D_f = (-\infty, 1] \Rightarrow m = 1 \Rightarrow m+n = \omega + 1\sqrt{2}$$

$$g(r) = \sqrt{18}, f(r) = 2+n \rightarrow 2+n - 2\sqrt{r} = 4\sqrt{r} \rightarrow n = 4\sqrt{r} - 2$$