

$$F(x) = \begin{cases} (\alpha+1)(x+\beta) & ; x > 1 \\ \mu\alpha + \nu x & ; x < 1 \end{cases}$$

$$F(0) = F(-1) + \alpha$$

عبارت ؟ ←

$$F(x) \rightarrow x > 1 \rightarrow (\alpha+1)(x+\beta) \rightarrow F(x) = (\alpha+1)(1) = 1\alpha + 1$$

$$F(-1) \rightarrow -1 < 1 \rightarrow \mu\alpha + \nu(-1) \rightarrow F(-1) = \mu\alpha - \nu$$

$$\text{و } F(1\alpha + 1) = \mu\alpha - \nu + \alpha \rightarrow 1\alpha + 1 = \mu\alpha - \nu$$

$$1\alpha = -1\alpha \rightarrow \alpha = \frac{-1}{2}$$

$$F(x) = \sqrt{x} + \frac{1}{\sqrt{x}} + \mu$$

$$F(1-\sqrt{2}) + F(1+\sqrt{2}) = 2$$

$$(1-\sqrt{2}, 1+\sqrt{2}) \rightarrow F(-1) = 1 \rightarrow \text{و } 1-\sqrt{2} = \frac{1}{1+\sqrt{2}} \rightarrow \begin{cases} z = \sqrt{1-\sqrt{2}} \\ \frac{1}{z} = \sqrt{1+\sqrt{2}} \end{cases}$$

$$z^2 + \frac{1}{z^2} = (1-\sqrt{2}) + (1+\sqrt{2}) = 2$$

$$\left(\frac{1}{z} + z\right)^2 = \frac{1}{z^2} + z^2 + 2 \rightarrow F+1=2 \rightarrow z + \frac{1}{z} = \sqrt{2}$$

$$F(1-\sqrt{2}) + F(1+\sqrt{2}) = \sqrt{1-\sqrt{2}} + \frac{1}{\sqrt{1-\sqrt{2}}} + \mu + \sqrt{1+\sqrt{2}} + \frac{1}{\sqrt{1+\sqrt{2}}} + \mu = \sqrt{2} + \mu$$

$$\mu F(x) - \nu F(-x) = F(x^2) - x$$

$$F(x) = ?$$

$$\mu F(x) - \nu F(-x) = F(x^2) - x$$

$$F(x) = A \quad F(-x) = B$$

$$F(x) = -F(x^2) - \frac{x}{2}$$

$$\mu A - \nu B = F(x^2) - x \xrightarrow{x^2} \mu A - \nu B = 1\mu x^2 - \nu x$$

$$-\mu A + \nu B = F(x^2) + x \xrightarrow{x^2} -\mu A + \nu B = 1\mu x^2 + \nu x$$

$$-\mu A = 1\mu x^2 + x \rightarrow F(x) = \frac{-\mu x^2 - x}{2}$$

$$(x+1)F(x) - \nu x F(x+1) = F(x^2) - mx + \nu m - 1$$

$$F(0) = ?$$

$$1 > x = 0 \rightarrow (0+1)F(0) - \nu(0)F(1) = \nu m - 1 \rightarrow F(0) = \nu m - 1$$

$4 \rightarrow x = -4 \rightarrow (-4, 4, f(-4), -4(-4), f(0) = f f(0) \rightarrow f f(0) = 10 + 0m$
 $f f(0) = 10 + 0m$
 $f f(0) = 4m - 1 \rightarrow f f(0) = 4m - 1 \rightarrow 4m - 1 = 10 + 0m \rightarrow m = 11$
 $4 f(0) = 4(11) - 1 = 43 \rightarrow f(0) = 43$
 $\frac{10 + 0m}{4} = \frac{4m - 1}{4} \rightarrow m = \frac{9}{4} \leq f, \Delta$
 $4 + 1 \cdot m = 11m - 4 \rightarrow 11m = 34 \rightarrow m = \frac{34}{11}$

$f(x) = ax + b$
 $f(x) + f(\frac{1}{x}) = \frac{4x^2 - 12x + 4}{x} \rightarrow ax + b + \frac{a}{x} + b = ax + \frac{a}{x} + 2b$
 $4x^2 - 12x + 4 = 0 \quad 4x^2 + \frac{4}{x} - 12 = ax + \frac{a}{x} + 2b$
 $a = 4, b = -2 \rightarrow f(x) = 4x - 2$
 $f(-1) = 4(-1) - 2 = -6 \rightarrow f(-1) = -6$

$f(x) = (x-1)\sqrt{1-x}$
 $g(x) = -\sqrt{(1-x)4}$
 $f(x) = - (1-x)\sqrt{1-x}$
 $f(x) = - (1-x)\frac{4}{\sqrt{1-x}}$
 $g(x) = - (1-x)\frac{4}{\sqrt{1-x}}$
 $f = g$
 دایکال کایه حوضه
 $1-x \geq 0 \rightarrow 1 \geq x$
 داخله حوضه کایه حوضه
 $f = g$

$f(x) = x\sqrt{x}$
 $g(x) = \sqrt{x^3}$
 $D_f = D_g \rightarrow f = g$
 $f(x) = x\sqrt{x} \rightarrow x \geq 0 \rightarrow D_f = [0, +\infty)$
 $g(x) = \sqrt{x^3} \rightarrow x \geq 0 \rightarrow D_g = [0, +\infty)$
 $f = g$

$f(x) = [\sqrt{x} - \lfloor \sqrt{x} \rfloor]$
 $g(x) = \sqrt{x - |x|}$
 $x \geq 0 \rightarrow |x| = x \rightarrow g(x) = \sqrt{x - x} = 0$
 $x < 0 \rightarrow x - |x| = x - (-x) = 2x \rightarrow g(x) = \sqrt{2x}$
 $f = g$
 دایکال کایه حوضه
 $x \geq 0 \rightarrow g(x) = 0$
 $x < 0 \rightarrow f(x) = g(x) = 0$

$$F = \{ (1, P_2), (1, P_3), (1, P_4), (1, P_5) \}$$

$$g = \{ (-1, P_2), (1, P_3), (1, P_4), (1, P_5), (\sqrt{2}, P_2) \}$$

$$\text{و} \rightarrow \left(\frac{f+g}{f-g} \right) (1) \rightarrow f(1) = P, g(1) = 1, \frac{P+1}{P-1} = \frac{P}{1} = P$$

$$\text{ج} \rightarrow \left(\frac{f+g}{f-g} \right) (P) \rightarrow f(P) = P, g(P) = P, \frac{P+P}{P-P} = \frac{2P}{0} = \infty$$

$$\text{د} \rightarrow f(\infty) = 0, g(-1) = 1, 0 \times 1 = 0$$

$$F(x) = \{ (P_2, 1), (-1, P), (1, P), (1, P), (1, P), (1, P) \}$$

$$\text{و} \rightarrow g(x) = F(x-1)$$

$$g(1) = 1 \rightarrow P(x-1) = P \rightarrow x = 1$$

$$g(\infty) = P \rightarrow P(x-1) = -1 \rightarrow x = 0$$

$$g\left(\frac{1}{P}\right) = \infty \rightarrow P(x-1) = 0 \rightarrow x = \frac{1}{P}$$

$$g\left(\frac{1}{P}\right) = P \rightarrow P(x-1) = P \rightarrow x = \frac{2}{P}$$

$$g\left(\frac{P}{P}\right) = -1 \rightarrow P(x-1) = P \rightarrow x = \frac{P}{P}$$

$$g = \{ (1, P), (1, P), (1, P), (1, P), (1, P), (1, P), (1, P), (1, P), (1, P), (1, P) \}$$

$$\text{ج} \rightarrow h(x) = f(x)$$

$$F(x) = 1 \rightarrow P(x) = P \rightarrow x = 1$$

$$h = 1 \rightarrow |x| = P \rightarrow x = \pm P$$

$$h = \infty \rightarrow |x| = 0 \rightarrow x = 0$$

$$h = -1 \rightarrow |x| = P \rightarrow x = \pm P$$

$$h = \{ (-P, 1), (-P, 1), (1, P), (1, P), (1, P), (1, P) \}$$

در دال معادله F باید x را به صورت F بنویسیم

$$x = 0 \quad P f(x) = P_{m-1} \rightarrow f(x) = \frac{P_{m-1}}{P}$$

$$x = -P \quad 4 f(x) = P(-P)^P + P_m + P_{m-1} \rightarrow f(x) = \frac{\omega_{m+1} \omega}{4}$$

$$\frac{\omega_{m+1} \omega}{4} = \frac{P_{m-1}}{P} \rightarrow 1. m + P = 1. m - 4 \rightarrow 1. m = P - 4 \rightarrow m = \frac{P}{4} \leq P, \omega$$

$$f(x) = \frac{P_{m-1}}{P} \leq \frac{1. \omega + \omega_m}{4} \rightarrow f(x) = \frac{P(P, \omega) - 1}{P} = \boxed{4, P \omega \leq \frac{P \omega}{2}}$$

