

Date:

Sub:

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$$f(x) = \begin{cases} (a+1)(x+r) & x > 1 \\ pa + rx & x \leq 1 \end{cases} \quad f(x) = f(-x) + a \quad a \neq 1 \quad (1)$$

$$p(a+1)(a+r) = pa + r(-1) + a = 1+a+1a = pa - \varepsilon + a$$

$$= 10a = -1\varepsilon - \varepsilon = 10a = -1 \Rightarrow a = -\frac{1}{11}$$

$$f(x) = \sqrt{x} + \frac{1}{\sqrt{x}} + p \quad f(x-\sqrt{p}) + f(x+\sqrt{p}) = 2 \cdot f\left(\frac{1}{a}\right) = f(x) \quad (2)$$

$$f(x+\sqrt{p}) = \sqrt{x+\sqrt{p}} + \frac{1}{\sqrt{x+\sqrt{p}}} + p = \sqrt{x+\sqrt{p}} + \sqrt{x-\sqrt{p}} + p \rightarrow A^2 = x + \sqrt{p} + x - \sqrt{p} + p = 4$$

$$A^2 = 4 \rightarrow A = \sqrt{4} \quad f(x+\sqrt{p}) = \sqrt{4} + p \rightarrow f(\sqrt{4} + p) = p\sqrt{4} + p$$

$$\begin{cases} pf(x) + pf(-x) = \varepsilon x^p - x \\ pf(x) + pf(x) = f(x)p + x \end{cases} \quad \begin{cases} pf(x) = 4f(-x) = -4x^p - px \\ 4f(-x) - 9f(x) = 4x^p - 9x \end{cases} \quad f(x) \quad (3)$$

$$\Delta \Delta f(x) = 4x^p + x$$

$$f(x) = -\varepsilon x^p - \frac{x}{a}$$

$$(x+r)f(x) - pf(x+r) = f(x)p - mx + pm - 1 \quad f(0) = \frac{pm-1}{p} \quad f(0) \quad (4)$$

$$f(0) \rightarrow pf(0) - 1 = 0 - 0 + pm - 1 \quad pf(0) = pm - 1$$

$$f(-x) \rightarrow 0 + 4f(0) = f(-x)p - m(-x) + pm - 1 \quad 4f(0) = 4 + pm + pm - 1$$

$$4f(0) = 9m - p \quad 9m - p = 5m + 10$$

$$4f(0) = 5m + 10$$

$$pm = 1 \quad m = \frac{1}{2} = \varepsilon(1)$$

$$f(0) = \frac{p \times \frac{1}{2} - 1}{p} = \frac{1}{2}$$

$$f(x) + f\left(\frac{1}{x}\right) = \frac{px^p - 1/x + p}{x} \quad y = px - 1$$

$$ax+b + \frac{a}{x} + b = px - \frac{1}{x} + \frac{p}{x} \quad f(-1) = -1 - 1 = -2$$

$$a = p \quad b = -1$$

$$f(-1) = -2 \quad f = -2$$

$$f(x) = (x-1)\sqrt{1-x} \quad 1-x \geq 0 \quad x \leq 1 \quad Df = Df$$

$$g(x) = -\sqrt{(1-x)^3} \quad x \leq 1$$

$$\begin{aligned} f &= -\sqrt{p} \\ g &= -\sqrt{r} \\ f &= -1 \\ g &= -1 \\ f &= 0 \\ g &= 0 \end{aligned}$$

$$f(x) = 0 \quad (5)$$

$$\begin{cases} f(x) = x\sqrt{x} & Df = x > 0 \\ g(x) = \sqrt{x^3} & Dg = x > 0 \end{cases} \quad \begin{matrix} \begin{matrix} -1 & 0 \\ 0 & 0 \\ 1 & 1 \end{matrix} \end{matrix} \quad \text{نسبتی ۱ بر ۱}$$

$$\begin{cases} f(x) = [\sqrt{x} - \lfloor \sqrt{x} \rfloor] & Df = x > 0 \\ g(x) = \sqrt{x - \lfloor x \rfloor} & Dg = x > 0 \end{cases} \quad \begin{matrix} \begin{matrix} 1 & 0 \\ 0 & 0 \\ 0 & 0 \end{matrix} \end{matrix} \quad \begin{matrix} f(x) = 0 \\ g(x) = 0 \end{matrix}$$

$$H = \{(1,1), (1,0), (2,0), (2,1), (0,2), (\sqrt{2},1)\}, f = \{(1,0), (2,0), (2,1), (0,0)\} \quad \text{②}$$

$$\text{a)} \left(\frac{f+g}{f-g} \right) (1) \quad \left(\frac{2+1}{2-1} \right) = \frac{3}{1} = 3$$

$$\text{ب)} \left(\frac{f+g}{f-g} \right) (2) \quad \left(\frac{2+2}{2-2} \right) = \text{undefined}$$

$$2) f(0)g(-1) = 0 \quad x(1) = 0$$

$$x_{n-1} = x \quad x_n = f_{n-1} \quad f(x) = \{(2,1), (-1,2), (0,0), (-2,2), (3,-1)\} \quad \text{③}$$

$$\text{a)} \quad y(x) = f(x_{n-1}) \quad x_{n-1} = x \quad x_n = x \quad x-1 \quad x_{n-1} = -1 \quad x=0 \quad x_{n-1} = 0$$

$$y(x) = \{(1,1), (0,2), (\frac{1}{2},0), (-\frac{1}{2},2), (\frac{3}{2},-1)\}$$

$$\text{ب)} \quad h(x) = f(|x|) \quad |x|=1 \quad |x|=2$$

$$h(x) = \{(2,1), (0,0), (-2,1), (2,-1)\}$$

ماتریس