

دوازدهم دختر B

پارسه نیزاره، تکلیف سمان ۸

۲۰ آفرین !!

$$\left. \begin{array}{l} \sqrt{\log_2^{n-1}} \quad n-1 > 0 \Rightarrow n > 1 \\ \log_2^{n-1} > 0 \Rightarrow n > 2 \end{array} \right\} n \rightarrow n > 2 \quad (1)$$

$$f(n) \in Dg$$

$$g(n) = \sqrt{-(n-2)^2} \quad -(n-2)^2 \geq 0 \Rightarrow n=2 \rightarrow Dg$$

$$f(x) = 2 \rightarrow \sqrt{\log_2^{n-1}} = 2 \quad n-1 = 14 \\ \Rightarrow n = 15 = D_{gof}$$

$$fcg(x) = gof(x) \quad (1)$$

$$2x^2 - 4x + 11 = (2x-8)^2 - 2(2x-8) + 11$$

$$2x^2 - 4x + 11 = 4x^2 - 24x + 61$$

$$2x^2 - 20x + 50 = 0 \quad \text{لا نهایی} = \alpha, \beta$$

$$\alpha^2 + \beta^2 = S^2 - 2P = (10)^2 - 2\left(\frac{50}{2}\right) = 100 - 50 = 50$$

$$gof(x) = g(f(x)) = g(2x) = 8x^2 + 11 \quad (2)$$

$$2x = t \rightarrow \frac{t}{2} = x \Rightarrow g(t) = 8\left(\frac{t}{2}\right)^2 + 11 = \frac{8}{4}t^2 + 11$$

$$g(x-5) = \frac{8}{4}(x-5)^2 + 11 = \frac{8}{4}x^2 - \frac{40}{4}x + \frac{219}{4}$$

$$\min \left\{ \begin{array}{l} x = \frac{-b}{2a} = \frac{\frac{40}{4}}{\frac{8}{4}} = 5 \\ y = \frac{8}{4}(0) + 11 = 11 \end{array} \right.$$

$$\left. \begin{aligned} f \circ g(x) &= 1^u x^r - 4x - 1 \\ f(g(x)) &= 1^u g(x) - \varepsilon \end{aligned} \right\} \rightarrow \left. \begin{aligned} 1^u x^r - 4x - 1 &= 1^u g - f(\varepsilon) \\ g(x) &= \frac{1^u x^r - 4x + 1}{1^u} \end{aligned} \right\}$$

$$g(x) = x^r - 4x + 1 = (x-1)^r$$

$$g \circ f(x) = (1^u x - \varepsilon - 1)^r = (1^u x - \delta)^r$$

$$\Rightarrow g \circ f(x) = 4x^r - 1^u x + 1$$

$$g(x) = \frac{1^u}{r} f(x) - v$$

$$f - g = f(x) - \left(\frac{1^u}{r} f(x) - v \right) = \frac{-f(x)}{r} + v = \delta - x$$

$$\Rightarrow \frac{-f(x)}{r} = -x - v \rightarrow f(x) = rx + \varepsilon$$

$$f(g(x)) = f\left(\frac{1^u}{r} f(x) - v\right) = f\left(\frac{1^u}{r} (rx + \varepsilon) - v\right)$$

$$= f(1^u x - 1) = r(1^u x - 1) + \varepsilon = 4x + 1$$

$$f \circ g(x) \text{ سبب } = 4 = \frac{r}{-a} \Rightarrow a = -\frac{1}{r}$$

$$g \circ f(x) = \log_{1^u}^{1^u x} = x \cdot \log_{1^u}^{1^u} = rx$$

$$f \circ g(x) = f(g(x)) = 1^u \log_{1^u}^{1^u x} = x \log_{1^u}^{1^u} = x^r$$

$$g \circ f(x) \geq f \circ g(x) \Rightarrow rx \geq x^r \rightarrow x^r - rx \leq 0$$

$$x(x-r) \leq 0$$

$$\frac{0}{+} \frac{r}{-} \frac{+}{+}$$

$$x = [0, r] \rightarrow \text{نقطه صفر}$$

$$f\left(\frac{x^r - r}{x}\right) = f\left(x - \frac{r}{x}\right) = \left(x - \frac{r}{x}\right)^r + \left(x - \frac{r}{x}\right)$$

$$\Rightarrow f(t) = t^r + t$$

$$f(x) = x^r + x$$

$$g(x) = x(\Lambda - x) \quad Dg = \mathbb{R}$$

(1)

$$f(x) = \log_r x \quad Df = (0, +\infty)$$

$$f \circ g \rightarrow g(x) \in D_f \Rightarrow x(\Lambda - x) \in (0, +\infty)$$

$$\frac{0}{-} \wedge \frac{\Lambda}{+}$$

$$x = (0, \Lambda) \cap \mathbb{R} \rightarrow D_{f \circ g} = (0, \Lambda)$$

$\hookrightarrow A$

(2)

$$f \circ g(x) = \log_r \Lambda x - x^r \rightarrow \Lambda x - x^r = (-\infty, \Lambda)$$

$$\log_r t, t = (0, \Lambda) \Rightarrow \log_r t = (-\infty, \epsilon) = \mathbb{R} \text{ f o g}$$

$\hookrightarrow B$

$$A \cap B = (0, \Lambda) \cap (-\infty, \epsilon) = (0, \epsilon)$$

مستقيم

$$f(f(x)) = 1 - r^r f^r(x) \Rightarrow f(x) = 1 - r^r x^r$$

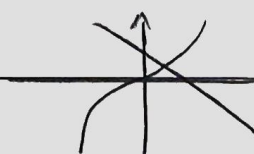
(9)

$$h(g(x)) = (x-1)^r + r(x-1) + 1 = x^r - r^r x^r + \delta x - r$$

(10)

$$h(g(x)) = f(x) \rightarrow x^r - r^r x^r + \delta x - r = 1 - r^r x^r$$

$$x^r = r - \delta x$$



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$$g(r) = \Lambda$$

$$g \circ f(x) = ax^r + rx$$

(10)

$$f(x) = r^r \downarrow \rightarrow ax^r + rx = \Lambda$$

$$f(x) = \frac{x^r - \epsilon}{r} = r^r \quad x^r - \epsilon - r^r x = 0 \Rightarrow x = -1, \epsilon$$

(11)

$$\begin{cases} x = \epsilon \rightarrow 4\epsilon a + \Lambda = \Lambda \Rightarrow a = 0 \end{cases}$$

$$\begin{cases} x = -1 \rightarrow -a - r = \Lambda \Rightarrow a = (-10) \end{cases}$$

$$a = \{0, -10\}$$