

تالیف ۲۲

روزنامه دفتر A

صبا است

$$a + \sqrt{1^2} = b \sqrt[3]{1} \rightarrow a + 1 = b \quad (1)$$

$$f(n) = \begin{cases} a + |n| & ; n < 1 \\ b \sqrt[3]{n^2} & ; n \geq 1 \end{cases}$$

در صورتی که بتواند
مورد دارد
این زیر را می‌تواند است
عنوان است

$$1 = \left(\frac{2x}{2x \sqrt[3]{n}} \right) b \rightarrow \frac{2b}{2 \sqrt[3]{n}} \xrightarrow{n=1} \frac{2b}{2} = 1$$

مستند در میزان هم بودن
طبق و
a+b=2
a=1/2
b=3/2

$$f(n) = \frac{|2n-2|}{\sqrt[3]{n^2}}$$

$$g(n) = \frac{\sqrt{n^2-2n+2} + \sqrt[3]{n}}{\sqrt[3]{n^2}} \quad (2)$$

$$f'(1) = \frac{2-2n}{\sqrt[3]{n^2}} \rightarrow \frac{-2(1)}{1} = -2$$

$$n \rightarrow 1 \rightarrow \frac{-2(1) - \left(\frac{2}{3} (2) \right)}{1} = -2 - \frac{4}{3} = -\frac{10}{3}$$

$$f'(1) - g'(1) = -\frac{10}{3} - \left(-\frac{5}{3} - \frac{\sqrt{3}}{3} \right) = \frac{\sqrt{3}}{3}$$

$$g'(1) = \frac{|n-2| + \sqrt{n}}{\sqrt[3]{n^2}} \rightarrow \frac{1-2 + \sqrt{1}}{\sqrt[3]{1^2}} = 0$$

$$\left(-1 + \frac{1}{\sqrt[3]{n^2}} \right) (\sqrt[3]{n^2}) - \left(\frac{2}{3 \sqrt[3]{n}} \right) (1-2 + \sqrt{n}) \xrightarrow{n=1} \left(-1 + \frac{1}{1} \right) - \left(\frac{2}{3} \right) (1) = -\frac{2}{3}$$

$$f'(1) - g'(1) = -\frac{10}{3} + \frac{2}{3} = -\frac{8}{3}$$

$$\Rightarrow -\frac{10}{3} - \frac{2}{3} = -\frac{12}{3} = -4$$

$$g'(n) = \frac{\left(-1 + \frac{1}{\sqrt[3]{n^2}} \right) (1) - \frac{2}{3 \sqrt[3]{n}} (1 + \sqrt{3})}{1} \rightarrow g'(1) = \frac{\left(-1 + \frac{1}{\sqrt[3]{1}} \right) - \frac{2}{3} (1 + \sqrt{3})}{1} = -\frac{5}{3} - \frac{\sqrt{3}}{3}$$

$$f(n) = \begin{cases} bn + c; & n < a \\ \frac{1}{n} & n \geq a \end{cases}$$

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$$\text{میزان} \rightarrow a \rightarrow \text{مشتق در } a \rightarrow -\frac{1}{n^2} = b \rightarrow -\frac{1}{a^2} = b$$

$$\text{مقدار در } a \rightarrow \frac{1}{a} = \frac{1}{a^2} + c \rightarrow \frac{1}{a} = -\frac{1}{a} + c \rightarrow \frac{2}{a} = c$$

$$ac = \frac{2}{a} \times \frac{1}{a} = \frac{2}{a^2}$$

(۱,۵) مشتق در a^+ و a^- باید برابر باشد و مشتق در a باید برابر باشد

$$f(n) = b + (n-a)^m = 1 \quad m \neq 0 \quad \underline{m=1}$$

$$f'(n) = m(n-a)^{m-1}$$

$$m=0 \rightarrow f'(a) = f'(a) \times 0 = 0$$

$$m=1 \rightarrow \begin{cases} f'(a) = 0 \\ f'(a) = 1 \end{cases} \rightarrow f'(a) \neq f'(a)$$

اگر $m=0$ تابع ناپویسته می شود

$$f(n) = \frac{1}{\sqrt[n]{n-1}}$$

$$g(n) = \frac{1}{n^2 - 1}$$

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$$g'(f(n)) \cdot f'(g(n)) \rightarrow (f \circ g)'(n)$$

$$f \circ g \rightarrow \frac{1}{\sqrt[n]{\frac{1}{n^2-1} - 1}} \rightarrow \frac{1}{\sqrt[n]{\frac{2}{n^2-1}}}$$

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$$(f \circ g)'(n) = 1$$

$$(f \circ g)'(-\sqrt[n]{2}) = 1$$

D PICASSO

$$y = -an - a \xrightarrow{n=10} -10a - a = y \quad (4)$$

$$f'(c) - f(c) = 2 \longrightarrow -a + 10a + a = 2$$

$$\frac{-10(-\frac{c}{10}) - a}{\frac{c}{10}} = \frac{\frac{c}{10} - \frac{1}{10}}{\frac{c}{10}} \Rightarrow \frac{1}{10} \quad \checkmark \quad \begin{matrix} 10a + a = 2 \\ a = \frac{-2}{10} \end{matrix} \quad (2)$$

$$g(\frac{10}{\sqrt{n}}) = \frac{1}{\sqrt{\frac{10}{\sqrt{n}} - 1}} = 2 \quad \checkmark \quad (7)$$

$$(f \circ g)(n) = (f \circ g)'(n) \xrightarrow{\sqrt{\frac{10}{\sqrt{n}} - 1}} f'(g(n)) \cdot g'(n) \quad (1)$$

$$(10n)(n^2-1)^{-\frac{1}{2}} = -\frac{1}{2} (n^2-1)^{-\frac{3}{2}} \times 2n (10n)$$

$$\Rightarrow \left(-\frac{1}{2} \times 10 \times \frac{10}{\sqrt{n}} \right) \left(\frac{10 \times n}{\sqrt{n}} \right) = \frac{10 \times 10 \times 10}{\sqrt{n}} = 100 \times \frac{10}{\sqrt{n}} = \frac{1000}{\sqrt{n}} \quad \wedge \quad \text{(جواب كامل باين صفت)}$$

$$(10n^2+1)' \Rightarrow 20n$$

$$\frac{1000}{-1000} = \frac{10}{\sqrt{2}} \rightarrow \frac{10\sqrt{2}}{2}$$

$$f(10n+1) = f(10n)$$

$$g'(-2) = f'(-1) + 10 f'(-4) \rightarrow \frac{10}{2} + 10 \times \frac{10}{4} = 9 \quad (2) \quad (\wedge)$$

$$\lim_{h \rightarrow 0} \frac{(f(a-h)-2)(f(a-h)-1)}{h(a-h)} = \left(\frac{f(a-h)-2}{h} \right) \left(\frac{f(a-h)-1}{a-h} \right) \quad (9) \quad (18)$$

$$\rightarrow \frac{1 \times 1}{a} \times f'(a) \quad f'(n) = 1(\sqrt{n+2}) + \left(\frac{1}{2} (n+2)^{-\frac{1}{2}} (n-2) \right)$$

$$\rightarrow f'(a) = 1 \times \left(1 + \frac{1}{2} \right) = \frac{3}{2} \quad \frac{1}{a} \times \frac{-10}{2} = \frac{-5}{a}$$

$$f(u) = (u-1)^r \sqrt{x+r} \rightarrow f'(u) = \sqrt{x+r} + (u-1) \frac{1}{\sqrt{x+r}} \rightarrow f'(\omega) = r + \frac{1}{1r} = \frac{r\omega}{1r}$$

$$f(\omega) = r$$

$$\lim_{h \rightarrow 0} \frac{f'(\omega-h) - r f'(\omega-h) + r}{h(\omega-h)} = \lim_{h \rightarrow 0} \frac{-r f'(\omega-h) f'(\omega-h) + r f'(\omega-h)}{\omega - rh} =$$

$$\frac{-r f'(\omega) f'(\omega) + r f'(\omega)}{\omega} = \frac{-r \times \frac{r\omega}{1r} \times r + r \times \frac{r\omega}{1r}}{\omega} = \frac{-\omega}{1r}$$

$$2y - 2n = 1 \rightarrow 2y = 2n + 1 \rightarrow y = \frac{1}{2}n + \frac{1}{2} \quad (10)$$

$$2x \rightarrow mm' = -1 \rightarrow \text{معلوم} \Rightarrow (-2)$$

$$y' = 2n - 2 \rightarrow 2n - 2 = -2 \quad n=1$$

$$n=1 \rightarrow y = 1 - 2 + 2 = 1 \rightarrow \frac{1}{1} \quad (2)$$

$$y = f(g(u)) \rightarrow y' = g'(u) f'(g(u)) \xrightarrow{u = \frac{r}{\sqrt{\lambda}}} y' = g'(\frac{r}{\sqrt{\lambda}}) f'(g(\frac{r}{\sqrt{\lambda}})) \rightarrow y' = g'(\frac{r}{\sqrt{\lambda}}) f'(r) \quad \text{سوال 1}$$

$$g(u) = \frac{1}{\sqrt{2u-1}} = (2u-1)^{-\frac{1}{2}} \rightarrow g'(u) = -\frac{1}{2} (2u-1)^{-\frac{3}{2}} \times 2 = -\frac{1}{2} (2u-1)^{-\frac{3}{2}}$$

$$g'(\frac{r}{\sqrt{\lambda}}) = -\frac{1}{2} \times \frac{r}{\sqrt{\lambda}} \left(\frac{1}{\lambda}\right)^{-\frac{3}{2}} = -\frac{1}{2} \times r \times \frac{1}{r^3} = -\frac{1}{2r^2} \sqrt{r} \rightarrow \underline{g'(\frac{r}{\sqrt{\lambda}}) = -\frac{1}{2r^2} \sqrt{r}}$$

$$f(u) = 19u^2 + 1 \rightarrow f'(u) = 38u \rightarrow \underline{f'(r) = 38r}$$

$$y' = g'(\frac{r}{\sqrt{\lambda}}) f'(r) = -\frac{1}{2r^2} \sqrt{r} \times 38r = r \times (-\frac{19}{r^2} \sqrt{r}) \rightarrow \underline{\underline{-\frac{19}{r} \sqrt{r}}}$$