

نام و نام خانوادگی شماره کلاس پاسخنامه تشریحی تکلیف شماره ۲۲

$$a + 1$$

$$b = a + 1 \rightarrow f \rightarrow a \leq 1$$

$$f_+(n) = f_-(n) \Rightarrow a + 1 = b \quad b - a = 1$$

$$a + b = \frac{1}{2} + \frac{1}{2} = 1$$

$$f'_+(n) = \frac{2n}{2\sqrt{n^2}} = f'_-(n) = \frac{2bn}{2\sqrt{n^2}} \Rightarrow \frac{1}{\sqrt{n}} = \frac{2b}{2} \Rightarrow b = \frac{1}{2}$$

$$\frac{f(n) - 2g(n)}{h(n)} = \frac{\frac{1}{2} - 2(n-2)\sqrt{n}}{\sqrt{n^2}} = -2\sqrt{n} + \frac{3}{\sqrt{n}}$$

$$h(n) = 2\sqrt{n} \Rightarrow h'(n) = \frac{1}{\sqrt{n}} = \frac{1}{2\sqrt{n}}$$

$$ba + c = \frac{1}{a} \Rightarrow ab + ac = 1 \Rightarrow ac = 1 - ab$$

$$f'_+(n) = f'_-(n) \Rightarrow b = -\frac{1}{n^2} \quad ab = -1$$

اگر m برابر با صفر باشد که مستقیم است و بزرگتر از صفر است
(اگر m بزرگتر از صفر باشد نقطه a مستقیم است و بزرگتر از صفر است)
نکته: اگر $m \leq 1$ مستقیم است و بزرگتر از صفر است

$$b + (n-a) \quad n \leq n$$

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

$$f(n) = \frac{1}{\sqrt{2n}}$$

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

$$-a + \sqrt{a+D} < 1 \quad \sqrt{a+D} < 1 \quad \sqrt{a} = -1$$

$$f(x) = -a = -1$$

$$f(x) = \sqrt{a+D} \Rightarrow \sqrt{a+D} = 1$$

$$\frac{f(x)}{f'(x)} = \frac{1}{-1} = -1$$

1,10

$$f \circ g\left(\frac{c}{x}\right) = \left(\frac{1}{x^{\frac{1}{x-1}}}\right)^{\frac{1}{x}} + 1 \quad (f \circ g)\left(\frac{c}{x}\right) = (x^{\frac{1}{x-1}})^{-\frac{1}{x}} + 1$$

$$f \circ g\left(\frac{c}{x}\right) = -\frac{1}{x} (x^{\frac{1}{x-1}})^{-\frac{1}{x}} = -\frac{1}{x} (x^{\frac{1}{x-1}})^{-\frac{1}{x}} = -\frac{1}{x} \cdot \frac{1}{x^{\frac{1}{x-1}}} = -\frac{1}{x^{\frac{x}{x-1}}}$$

$$\log \frac{-\frac{1}{x^{\frac{x}{x-1}}}}{\frac{1}{x^{\frac{x}{x-1}}}} = \frac{\log \left(\frac{1}{x^{\frac{x}{x-1}}}\right)}{\frac{1}{x^{\frac{x}{x-1}}}} = \frac{-\frac{x}{x-1}}{\frac{1}{x^{\frac{x}{x-1}}}} = -\frac{x}{x-1} \cdot x^{\frac{x}{x-1}}$$

$$g'(x) = f'(x+1) + \sqrt{f'(x+1)} \quad f(-1) = \sqrt{1} = 1 \quad f'(-1) = f'(1)$$

$$g'(-1) = f'(-1) + \sqrt{f'(-1)}$$

$$g'(-1) = 1$$

1

$$\frac{-2f(x)f'(x) + \sqrt{f'(x)}}{1}$$

$$f(x) = 1 \times 1 \times 1$$

$$f'(x) = \frac{1}{\sqrt{1+x}} + \frac{x-1}{\sqrt{1+x}} = \frac{x}{\sqrt{1+x}}$$

$$\frac{-2 \times 1 \times \frac{x}{\sqrt{1+x}} + \sqrt{\frac{x}{\sqrt{1+x}}}}{1} = \frac{-2x + \sqrt{x}}{\sqrt{1+x}} = -\frac{2x}{\sqrt{1+x}} + \frac{1}{\sqrt{1+x}}$$

$$y = \sqrt{x+1} \Rightarrow y = \frac{1}{\sqrt{x+1}} \quad m = 1 \quad m' = -1$$

$$y = x^{\frac{1}{2}} \Rightarrow y' = \frac{1}{2} x^{-\frac{1}{2}} = \frac{1}{2\sqrt{x}}$$

$$1 \times 1 = 1$$

$$x = 1$$

1

$$g(-\sqrt{r}) = \frac{1}{(-\sqrt{r})^r - 1(-\sqrt{r})^r} = \frac{1}{-r-r} = -\frac{1}{r}$$

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$$\phi(-\frac{1}{\varepsilon}) = \frac{1}{\sqrt[r]{-\frac{1}{\varepsilon} - \frac{1}{\varepsilon}}} = (-\frac{1}{r})^{-\frac{1}{r}} = -(r)^{-1 \times -\frac{1}{r}} = -r^{\frac{1}{r}} = -\sqrt[r]{r}$$

$\rightarrow \phi \circ g(n) = n$

$$g'(n) \times \phi'(g(n)) = (n)' = 1$$

$$f(r) = -ra - a \quad \phi'(r) = -a$$

$$-r(-\frac{r}{r}) - a = -\frac{1}{r}$$

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$$-a - (-ra - a) = r \rightarrow ra = r \rightarrow a = -\frac{r}{r}$$

$$\rightarrow \frac{\phi(r)}{\phi'(r)} = \frac{-\frac{1}{r}}{-\frac{r}{r}} = \frac{1}{r}$$

$$(\phi \circ g)' = g'(\frac{r}{\sqrt{\lambda}}) \times \phi'(g(\frac{r}{\sqrt{\lambda}}))$$

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$$g(\frac{r}{\sqrt{\lambda}}) = \frac{1}{\sqrt[r]{\frac{r}{\lambda} - 1}} = r \rightarrow g'(\frac{r}{\sqrt{\lambda}}) \times \phi'(r)$$

$$g'(\frac{r}{\sqrt{\lambda}}) = -\frac{1}{r} (u^r - 1)^{-\frac{r}{r}} \times ru = \frac{r}{\sqrt{\lambda}} \times -\frac{1}{r} \times (\frac{r}{\lambda} - 1)^{-\frac{r}{r}} = -\frac{r}{\sqrt{\lambda}} \times (r)^{-\frac{r}{r}} = -\frac{r^A \times \sqrt{r}}{r} = -\lambda \sqrt{\lambda}$$

$$f(n), n=r \rightarrow f(n) = n[\varepsilon]_{+1}^r = n n_{+1}^r \rightarrow f'(r) = r r(r) = 4r$$

$$\frac{-\lambda \sqrt{r} \times 4r}{-1 \times \lambda \sqrt{r}} = r$$

$$\lim_{h \rightarrow 0} \frac{(\phi(a-h) - 2)(\phi(a-h) - 1)}{h(a-h)} = -\phi'(a) \times \frac{(\phi(a) - 1)}{a}$$

4

$$\phi'(a) = \sqrt[3]{a+3} + \frac{a-4}{3\sqrt[3]{(a+3)^2}} \leadsto -\phi'(a) = -\left(\sqrt[3]{a} + \frac{1}{3 \times 4}\right) = 2 + \frac{1}{12} = -\frac{25}{12}$$

$$-\frac{25}{12} \times \frac{2-1}{a} = \boxed{-\frac{25}{12}}$$

تعريف مشتق $\phi(a)$ $\rightarrow \frac{\phi(h) - \phi(a-h)}{h} = \phi'(a)$