

نام و نام خانوادگی اطلاعات پاسخنامه تشریحی تکلیف شماره ۲۴ کلاس ب

$f(x) = g(x) = 0$ $f'(x) = g'(x)$ $g(0) = 1$ $g'(x) = 0$

شیب $g = \frac{dy}{dx} = \frac{0-1}{x-0} = -\frac{1}{x}$

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

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$g = \frac{m}{x}x + \frac{n}{x}$

$g' = \frac{mx^2 + 4x + 3m - 1}{(x+m)^2} \xrightarrow{x=1} \frac{1+4+3m-1}{14} = \frac{4}{x}$

$\rightarrow 12 = 4 + 3m \rightarrow m = 2$

$\frac{m}{x} + \frac{n}{x} = \frac{1+x+1}{1+x} \rightarrow \frac{m}{x} + \frac{n}{x} = 1 \rightarrow \frac{n}{x} = \frac{1}{x} \rightarrow n = 1$

$m+n = 3$

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~~$f(x) = (x - \sin x)(x + \sin x + 3 \sin x)$~~
 ~~$g(x) = \frac{x^2 \cos x}{x + \sin x}$~~
 ~~$f'(x) = -\frac{2x \sin x}{x + \sin x} - \frac{3 \cos x}{x + \sin x}$~~
 ~~$g'(x) = \frac{-2x \sin x - 3 \cos x}{(x + \sin x)^2}$~~
 ~~$f'(x) = g'(x) \Rightarrow \frac{-2x \sin x - 3 \cos x}{x + \sin x} = \frac{-2x \sin x - 3 \cos x}{(x + \sin x)^2}$~~
 ~~$(x + \sin x) = 1$~~
 با سطح در صفحه
 آنتی

$m = \frac{1-2}{-1-2} = \frac{1}{3}$

$d \Rightarrow g-1 = \frac{1}{x}(x+1) \Rightarrow g = \frac{1}{x}x + \frac{1}{x}$

$\frac{a}{\sqrt{ax-1}} = \frac{1}{x} \rightarrow \frac{3a}{x} = \sqrt{ax-1} \quad (I)$

$\frac{1}{x}x + \frac{1}{x} = \sqrt{ax-1} \quad (II) \rightarrow \frac{1}{x}x + \frac{1}{x} = \frac{3a}{x}$

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$g'(\sqrt{x}) f'(g(\sqrt{x})) = (f \circ g)' = \frac{-1}{\sqrt{x^2 + |x^2| + |x^2 + x^2|}}$

$x > 0 \rightarrow f \circ g = \frac{-1}{\sqrt{x^2 + x^2}} = \frac{-1}{x\sqrt{2}} \rightarrow f \circ g' = \frac{\sqrt{x}}{(x\sqrt{2})^2}$

$x = \frac{a}{\sqrt{x}} \rightarrow \frac{\sqrt{x}}{(\frac{a}{\sqrt{x}}\sqrt{2})^2} = \frac{\sqrt{x}}{\frac{2a^2}{x}} = \frac{x\sqrt{x}}{2a^2}$

۱.۵

$$\frac{f(x)-1}{x} = g(x) \rightarrow g(x) = \frac{\left(\frac{-1+\sin x}{1+\sin x}\right)^r - 1}{x} \rightarrow \lim_{x \rightarrow 0} g(x) = \frac{0}{0} \rightarrow \text{Hôpital}$$

$$\lim_{x \rightarrow 0} \left(\frac{-1+\sin x}{1+\sin x} \right)^r \times \left(\frac{\cos x(1+\sin x) - (\cos x(-1+\sin x))}{(1+\sin x)^2} \right) = \frac{r \times (-1) \times (1(1+0) - 1(-1+0))}{(1)^2} = \frac{r \times (-1) \times (1+1)}{1} = -2r$$

$= (-r) \times (r) = -r^2$ ✓

$$y = x^r + 1$$

$$(-r x^{r-1}) \times (r x^{r-1}) = -1 \rightarrow \text{تساوی برقرار نیست}$$

$$y^{(1)} = -r x^{r-1} \rightarrow y^{(2)} = -r(r-1)x^{r-2}$$

$$-r_1^{r-1} - 1 = -r_2^{r-1} - 1 \rightarrow r_1^r = r_2^r \rightarrow r_1 = \pm r_2 \rightarrow r_1 = -r_2$$

$$\text{مثلاً } r_2 = -1 \rightarrow -r_1^{r-1} = -1 \rightarrow r_1 = \pm \frac{1}{r} \rightarrow r_2 = \mp \frac{1}{r}$$

$$y^{(2)} = -r x^{r-1} \xrightarrow{r=2} -\frac{1}{x} - 1 = \frac{-1-x}{x} \rightarrow \text{این جواب درست است} ✓$$

$$f(x) = r \sqrt{x} \quad (E a x^r + r) \rightarrow f'(x) = \frac{r}{r \sqrt{x}} \times (r E a x^{r+r}) + r \sqrt{x} (a x^r)$$

$$g(x) = a x$$

A

$$L \approx a x = y$$

?

~~$$f(x) = \dots$$~~

$$\log_{(x)} \left(\frac{1}{\sqrt{x^2-1}} \times \left[\frac{1}{\sqrt{x^2-1}} \right]^r \right)^m$$

$$\left(x < \frac{\sqrt{a}}{r} \rightarrow x^r < \frac{a}{r} \rightarrow x^{r-1} < \frac{1}{r} \right)$$

$$\rightarrow \sqrt{x^2-1} < \frac{1}{r} \rightarrow \frac{1}{\sqrt{x^2-1}} > r$$

~~$$f(x) = \dots$$~~

$$\log_{(x)} \left(r \times \frac{1}{\sqrt{x^2-1}} \right)^m \rightarrow \frac{1}{r}$$

$$\rightarrow (\log_{(x)})' = m \times \left(\frac{r}{\sqrt{x^2-1}} \right)^r \times \left(\frac{\sqrt{x^2-1}}{x} \right) \xrightarrow{x = \frac{\sqrt{a}}{r}} \log'_{(x)} = \frac{r^r}{\sqrt{a}}$$

اینجا پاسخ صحیح است

-1/a

$$L(x) = \frac{(\psi - \sin x)(a + \sin x + \psi \sin x)}{(\psi - \sin x)(\psi + \sin x)} = \frac{a + \sin x + \psi \sin x}{\psi + \sin x}$$

$$\psi g'(x) - L'(x) = (\psi g(x) - L(x))' = \left(\frac{a - a - \sin x - \psi \sin x}{\psi + \sin x} \right)' = \left(\frac{-\sin x (\sin x + \psi)}{\psi + \sin x} \right)'$$

$$= (-\sin x)' = -\cos x \cdot \left[\frac{-1}{\psi} \right] \quad \text{Q}$$

$$m = \frac{r-1}{r+1} = \frac{1}{r} \rightsquigarrow f'(n) = \frac{a}{r\sqrt{an-1}} = \frac{1}{r} \rightsquigarrow ra = r\sqrt{an-1}$$

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$$\text{نقطه} = y = \frac{1}{r}x + \frac{c}{r} \rightsquigarrow x+c = r\sqrt{an-1} \rightsquigarrow x+c = \frac{ra}{r}(r) = \frac{ra}{r}$$

$$x = r, \quad a = -1 \rightsquigarrow r, \quad a = -1 + c = r\sqrt{a(r, \quad a = -1) - 1} \rightsquigarrow ra^2 - 14a - 1 = 0 \rightsquigarrow a = \frac{r}{2} \quad \text{و } a = -\frac{r}{2}x$$

$$f(a) = \sqrt{1 \cdot -1} = \sqrt{-1} = r$$

$$g'(x) \times f'(g(x)) = (f \circ g)'(x)$$

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$$x > 0 \rightarrow g(x) = \frac{1}{r x^a} \rightarrow f(x) = \frac{-1}{\sqrt[r]{rx}} \rightsquigarrow f \circ g(x) = \frac{-1}{\sqrt[r]{r(\frac{1}{r x^a})}}$$

$$f \circ g(x) = -x \rightarrow (f \circ g)'(x) = -1 \rightsquigarrow (f \circ g)'(\sqrt[r]{r}) = 1$$

$$f(x) = 1x^{\frac{3}{2}} + 4x^{\frac{1}{2}} \rightarrow f'(x) = \frac{3}{2}x^{\frac{1}{2}} + \frac{1}{2}x^{-\frac{1}{2}}$$

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$$y - r\sqrt{a}(ra^2 + r) = \frac{r \cdot a^2 + r}{\sqrt{a}}(x-a)$$

مقادیر خودتان را بنویسید: $x = a$ برابری:

$$x, y = 0 \rightsquigarrow r\sqrt{a}(ra^2 + r) = \frac{r \cdot a^2 + r}{\sqrt{a}}(a) \rightsquigarrow r\sqrt{a}(ra^2 + r) = \frac{r \cdot a^2 + r}{\sqrt{a}}(a)$$

$$ra^2 + 4 = r \cdot a^2 + r \rightarrow 12a^2 = r \rightarrow a = \pm \frac{1}{r} \rightsquigarrow a > 0 \rightarrow a = \frac{1}{r}$$

$$m = r \cdot (r^{-1} x^{\frac{r}{r}}) + r(r^{-1}(\frac{-1}{r})) = 1\sqrt{r}$$

$$y = mx \rightarrow \frac{\sqrt{a}}{-ra^2 + a + 1} = ma \rightarrow \frac{1}{-ra^2 + a + 1} = m\sqrt{a}$$

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$$m\sqrt{a}(-ra^2 + a + 1) = 1 \rightarrow -2m(a^{\frac{3}{2}}) + m(a^{\frac{1}{2}}) + m(a)^{\frac{1}{2}} = 1 \rightsquigarrow \text{مستقیم}$$

$$-2m(a^{\frac{3}{2}}) + \frac{r}{r}m(a^{\frac{1}{2}}) + \frac{m}{r}(a^{-\frac{1}{2}}) = 0$$

$$\frac{m}{r}(a^{-\frac{1}{2}})(-1 \cdot a^2 + ra + 1) = 0 \rightsquigarrow a = -\frac{1}{2} \leq a = \frac{1}{r} (a > 0)$$

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