

# ۱۹،۲۵ آزمون دی بافت - بیشتر کی حل کن!

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(0,1) و (3,5)  $\Rightarrow m = \frac{5-1}{3-0} = \frac{4}{3}$   $\Rightarrow$  ۴  $\rightarrow$  پاسخ

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$(2,2), (-1,1) \Rightarrow m = \frac{2-1}{2-(-1)} = \frac{1}{3} \Rightarrow y - 1 = \frac{1}{3}(x + 1) \Rightarrow y = \frac{1}{3}x + \frac{4}{3}$

$\frac{1}{3} \Rightarrow f'(a) \Rightarrow \frac{9}{\sqrt{a^2-1}} \Rightarrow \frac{1}{3} \Rightarrow \frac{3a}{\sqrt{a^2-1}} \Rightarrow \sqrt{a^2-1} = 3a \Rightarrow a^2-1 = 9a^2 \Rightarrow a^2 = -\frac{1}{8}$

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$9a^2 \Rightarrow 20a - 2 \Rightarrow 9a^2 - 20a + 2 = 0 \Rightarrow a = \frac{20 \pm \sqrt{400 - 72}}{18} = \frac{20 \pm \sqrt{328}}{18}$

$\frac{x^2 + mx + 1}{x+3} \rightarrow$  مشق  $\Rightarrow \frac{3}{2} \Rightarrow \frac{(m+3)(x+3) - (x^2 + mx + 1)}{(x+3)^2} \Rightarrow$

$x=1 \Rightarrow \frac{(1+m)(1) - (1^2 + m \cdot 1 + 1)}{14} \Rightarrow \frac{(1+m)(3) - 2}{14} = \frac{3}{2} \Rightarrow (1+m)(3) = 14 + 2 \Rightarrow 3 + 3m = 16 \Rightarrow 3m = 13 \Rightarrow m = \frac{13}{3}$

$y = \frac{1+2x+1}{x} \Rightarrow 1 \Rightarrow y = 2 + \frac{2}{x} \Rightarrow 1 = 2 + \frac{2}{x} \Rightarrow \frac{2}{x} = -1 \Rightarrow x = -2$

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$(fg - f)' \Rightarrow \frac{9}{2 + \sin x} - \frac{(2 - \sin x)(9 + \sin^2 x + \sin x)}{(2 + \sin x)^2} \Rightarrow \frac{-\sin x + \sin^3 x}{2 + \sin x} \Rightarrow \frac{-\sin x(\sin^2 x - 1)}{2 + \sin x} = \frac{-\sin x \cos^2 x}{2 + \sin x}$

$-\sin^2 x \Rightarrow$  مشق  $\Rightarrow -\cos u \Rightarrow -\cos \frac{5x}{3} \Rightarrow -\cos 30^\circ \Rightarrow \frac{+1}{2}$

۲ ارفاق

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۳. درجه در نصیب پیام است و گویس آن مثبت است بافت رقیبت آن  $\frac{1}{p} - 3$

$(f \circ g)'(\frac{9}{\sqrt{3}}) \Rightarrow f'(\frac{9}{\sqrt{3}}) \Rightarrow f'(a) = \frac{1}{\sqrt{a^2-1}} \Rightarrow f'(9) = \frac{1}{\sqrt{81-1}} = \frac{1}{\sqrt{80}}$

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$$\left(\frac{-1 + \sin x}{1 + \sin x}\right)^2 \Rightarrow \frac{-1 + \sin x}{1 + \sin x} \Rightarrow \frac{1}{2} \Rightarrow 2 \sin x - 1 \Rightarrow \sin x = \frac{1}{2}$$

$$\sin x = \frac{1}{2} \Rightarrow x = \frac{\pi}{6}, \frac{5\pi}{6}$$

1/8

$$y \Rightarrow x^2 + \frac{1}{x} - x^2 - 1 \Rightarrow d \Rightarrow x^2 + 1 + d \Rightarrow -2(1+d) > 0 \Rightarrow 1+d < 0 \Rightarrow d < -1$$

مقدوروں سے قدریں وکس بلدیتر سے ہیں برابرا (الوا)  $-\frac{1}{x} \Rightarrow \frac{1}{x} > \frac{1}{x}$   $\frac{-1}{x} \Rightarrow \frac{1}{x} > \frac{1}{x}$   $\frac{-1}{x} \Rightarrow \frac{1}{x} > \frac{1}{x}$   $\frac{-1}{x} \Rightarrow \frac{1}{x} > \frac{1}{x}$

$$\frac{x}{\sqrt{x}(\epsilon x^2 + c)} \cdot \frac{\sqrt{x}(\epsilon x^2 + c)}{x} = \frac{1}{\sqrt{x}} \cdot (\epsilon x^2 + c) + (\epsilon x^2 + c) \cdot \frac{1}{\sqrt{x}}$$

$$\sqrt{x}(\epsilon x^2 + c) = \sqrt{x}(\epsilon x^2 + c) + \epsilon x^2 \sqrt{x} \Rightarrow \sqrt{x}(\epsilon x^2 + c) = \epsilon x^2 \sqrt{x}$$

$$\epsilon x^2 + c = \epsilon x^2 \Rightarrow \epsilon x^2 - \epsilon x^2 + c = 0 \Rightarrow \frac{c}{x} \Rightarrow \begin{cases} x = 1/8 \\ x = 1 \end{cases} \Rightarrow \frac{1}{\sqrt{2}}$$

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

$$-2x^2 + x + 1 = t \Rightarrow \frac{\sqrt{x}}{xt} = \frac{1}{2\sqrt{x}} t - \sqrt{x}(-2x + 1) \Rightarrow$$

$$\Rightarrow |x^2 - 2x - 1| = 0 \Rightarrow x = \frac{1 \pm \sqrt{5}}{2} \Rightarrow x = \frac{\sqrt{5} - 1}{2}$$

!!! دقت کن !!!

$$f(c)g(\frac{1}{c}) \Rightarrow f(c)g(\frac{1}{c}) \times g(\frac{1}{c}) \Rightarrow (2\sqrt{c} - \epsilon\sqrt{c}) \Rightarrow \epsilon\sqrt{c} - \epsilon\sqrt{c}$$

$$g(\frac{1}{c}) \Rightarrow \frac{1}{c} \Rightarrow f(\frac{1}{c}) \Rightarrow 2\epsilon\sqrt{c} \Rightarrow \epsilon\sqrt{c}$$

$$g(x) = (x^2 - 1)^{-\frac{1}{2}} \Rightarrow g'(x) = -\frac{1}{2}(x^2 - 1)^{-\frac{3}{2}} \cdot 2x \Rightarrow -\frac{x}{(x^2 - 1)^{\frac{3}{2}}} \Rightarrow -\frac{x}{\sqrt{x^2 - 1}}$$

$$g(x) = \frac{f(x) - 1}{x} \rightarrow \lim_{x \rightarrow 0} g(x) = f'(0)$$

$$f'(x) = \frac{r}{(1 + 8 \sin x)^2} \times \cos x \times r \left( \frac{8 \sin x - 1}{1 + 8 \sin x} \right) \rightarrow f'(0) = \frac{r}{1} \times 1 \times -r = -r$$