

سنا امدقانه تليف ۲۳

$$g'(u) = (r(1 + \tan^2 u) + \sqrt{r}(\sin u)) \times f'(\tan u + \sqrt{r} \sin u)$$

سوال ۱

$$\rightarrow g'\left(\frac{\pi}{2}\right) = (r-1) \times f'(r) = \sqrt{r} \rightarrow f'(r) = \frac{\sqrt{r}}{r} = \frac{1}{\sqrt{r}}$$

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سوال ۳

$$f_+ \left(\frac{r}{\varepsilon} \right) = + \frac{\varepsilon \sqrt{r a}}{r} = \sqrt{r a} \quad \left\{ \begin{array}{l} \text{افزایش} \\ \text{افتتاح} \end{array} \right. \varepsilon \sqrt{r a} = \sqrt{r} \quad \text{سوال ۳}$$

$$f_- \left(\frac{r}{\varepsilon} \right) = - \frac{\varepsilon \sqrt{r a}}{r} = - \sqrt{r a} \quad \rightarrow \sqrt{r a} = \sqrt{r}$$

$$\rightarrow r a = \frac{r}{r} \rightarrow a = \frac{1}{r}$$

$$y = -a x + r \quad f'(\varepsilon) = -a \quad f(\varepsilon) = -\varepsilon a + r$$

سوال ۴

$$f(\varepsilon) + f'(\varepsilon) = -a \varepsilon + r = -1 \rightarrow a = \frac{r}{a} \quad f'(\varepsilon) = -a = -\frac{r}{a}$$

$$y = \frac{1}{\sqrt{x}} + \frac{a}{\sqrt{x}} \quad f(x) = \frac{a x^{\frac{1}{2}}}{\sqrt{x} + 1}$$

سوال ۵

$$f'(x) = \frac{a + \frac{1}{2}}{(\sqrt{x} + 1)^2} = \frac{1}{\sqrt{x}} \rightarrow a x^{\frac{1}{2}} + \frac{1}{2} x + 1 = \sqrt{x} + 1$$

$$a x^{\frac{1}{2}} + \frac{1}{2} x - \sqrt{x} = 0 \quad \Delta = 0 \rightarrow \frac{1}{4} + 4 \times a (\frac{1}{2} + \sqrt{a}) = 0$$

$$\rightarrow \frac{1}{4} + \sqrt{a} = -1 \rightarrow a = -\frac{17}{4}$$

$$f(x) = \frac{1}{2} x^2 + a \quad f'(x) = x + a = 0 \rightarrow a = -1$$

سوال ۶

$$f(x) = 0 \rightarrow 1 + x(-1) - b = 0 \rightarrow -1 - b = 0 \rightarrow b = -1$$

$$b - a = -1$$

$$f^{-1}(x) = x \rightarrow f(x) = x \rightarrow \frac{\sqrt{x+1}}{\sqrt{x-1}} = x \rightarrow \sqrt{x+1} = x \sqrt{x-1} \rightarrow x = 9$$

سوال ۷

$$f'(9) = \frac{1}{(f^{-1}(x))'} \quad f'(x) = \frac{\left(\frac{1}{\sqrt{x}} \right) (\sqrt{x-1}) - \frac{1}{\sqrt{x}} (\sqrt{x+1})}{(\sqrt{x-1})^2}$$

$$f'(9) = \frac{\frac{1}{7} x(7) - \frac{1}{7} (7)}{7 \times 7} = \frac{-1}{7 \times 7} = -\frac{1}{49} \rightarrow (f^{-1}(x))' = -7$$

$$\frac{f(1) - f(-1)}{+1} = 1 - (-1a\frac{1}{2} + 1) = -1 \rightarrow a = -\frac{1}{2}$$

Sollte

$$f'(n) = \mu(n)(n+1)(an+1) + a(n+1)^\mu$$

$$f'(\text{da} - 1) = \mu(-1)(\cancel{1})\left(\frac{\mu}{\cancel{2}}\right) - \frac{1}{2}(1)$$

$$-1 \cdot 1 - \frac{1}{2} = -\underline{\underline{\frac{3}{2}}}$$

$$\frac{\sin \pi/\epsilon \times \cos \pi - \sin \pi/\epsilon \times \cos \pi/\epsilon}{\pi/\epsilon} = \frac{-\pi}{\pi} \quad \text{والله}$$

$$\frac{(\sin^{\epsilon} \pi/\epsilon - \cos^{\epsilon} \pi/\epsilon) - (\sin^{\epsilon} \pi/\epsilon - \cos^{\epsilon} \pi/\epsilon)}{\pi/\epsilon} = \frac{\pi}{\pi}$$

$$\frac{-\pi/\pi}{\pi/\pi} = (-1)$$