

روز یکشنبه ۱۳۰۳/۰۹/۰۱

تاریخ و قدیم

تاریخ ۱۳۰۳

پنجشنبه

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ربیع الثانی

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$$\tan \frac{\pi}{4} = 1$$

$$\cos \frac{\pi}{4} = \frac{\sqrt{2}}{2}$$

$$\left. \begin{array}{l} \tan \frac{\pi}{4} = 1 \\ \cos \frac{\pi}{4} = \frac{\sqrt{2}}{2} \end{array} \right\} \tan^2 m + \sqrt{2} \cos m = 1 + \frac{\sqrt{2}}{2} \times \sqrt{2} = 2$$

$$g'(m) = \underbrace{f'(m)}_{\text{مشتق داخل}} \times \underbrace{f(m)}_{\text{درون}} = 2 \times 1 \times 2 = 4 + \frac{-\sqrt{2} \times \sqrt{2}}{2} = -1$$

$$(\tan^2 m)' = 2 \tan m \sec^2 m \tan^2 m + \sqrt{2} \cos m \quad \leftarrow -1 = 2$$

$$\sqrt{2} \cos m = 2 f'(m) \rightarrow f'(m) = \boxed{\frac{\sqrt{2}}{2}}$$

$$g(m) = \frac{2}{2 - \cos m} \rightarrow g\left(\frac{\pi}{4}\right) = \frac{2}{1 - \sqrt{2}}$$

$$f(m) = \frac{1 + \cos^2 m}{2 - \cos^2 m} \rightarrow f'\left(\frac{\pi}{4}\right) = \frac{2\sqrt{2} - \frac{1}{2} - \frac{11}{2\sqrt{2}}}{\frac{1}{2}}$$

$$\frac{-1 - 4\sqrt{2}}{2} = \frac{-1 - 4\sqrt{2}}{2}$$

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ربیع الثانی

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$$f'(m) \rightarrow \lim_{m \rightarrow \frac{\pi}{4}^+} \frac{(f(m) - 2) \sqrt{2} \cos m}{m - \frac{\pi}{4}} = \sqrt{2} \cos m = 2\sqrt{2}$$

$$\lim_{m \rightarrow \frac{\pi}{4}^-} \frac{(f(m) - 2) \sqrt{2} \cos m}{m - \frac{\pi}{4}} = -\sqrt{2} \cos m = -2\sqrt{2}$$

$$2\sqrt{2} - (-2\sqrt{2}) = 4\sqrt{2} \rightarrow a = \frac{1}{4}$$

$$f'(x) = -a \quad \left\{ \begin{array}{l} f(x) + f'(x) = -1 \\ f(x) = 2 - \frac{1}{a} \end{array} \right. \Rightarrow 2 - \frac{1}{a} - a = -1$$

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

$$a = \frac{1}{4}$$

روز بزرگداشت حافظ

$y = \frac{n+a}{v} = a \frac{n-1}{n+1}$ (2)
 $n_m^2 + (14-7a)n + 12 = 0$
 $(14-7a)^2 - 4 \times 1 \times 12 = 0$
 $14-7a = 12$
 $7a = 2$
 $a = \frac{2}{7}$
 $f(x) = 0 \quad f'(x) = 0$
 $14a + 7a - b = 0$
 $14a = b$
 $14 \times \frac{2}{7} = b$
 $b = 4$
 $\Rightarrow -14 - (-12) = -2$

$f(m) = \sin^h(m^2)$ (3)
 $\lim_{m \rightarrow \infty} \frac{f(m) f'(m)}{(1 - \cos m)^m} = \frac{1}{2\sqrt{2}}$
 $\frac{\sin m \sim m}{\cos m \sim \frac{m}{2}}$
 $\frac{m^2}{m} = m$
 $m^2 = m^2$
 $m = \frac{1}{2}$
 $m + h = 1 + \frac{1}{2} = \frac{3}{2}$

$y = \frac{\sqrt{m+1}}{\sqrt{m-1}} \Rightarrow \sqrt{m} y - y = \sqrt{m+1} \rightarrow \sqrt{m} (y-1) = y+1$ (1)
 $\left(\frac{m+1}{m-1}\right)^2 = f^{-1}(m) \leftarrow m = \left(\frac{y+1}{y-1}\right)^2$
 $f^{-1}(m) = \frac{m+1}{m-1} \left(\frac{(m-1)^2}{(m+1)^2}\right) \Rightarrow f^{-1}(y) = \frac{y^2-1}{y^2+1}$
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$$y = \sin^n \cos^n$$

$$\frac{f(\frac{\pi}{4}) - f(\frac{\pi}{2})}{\frac{\pi}{4} - \frac{\pi}{2}} = \frac{-1 - 0}{\frac{\pi}{4}}$$

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$$= -\frac{\pi}{4}$$

$$y = \sin^n - \cos^n$$

$$\frac{f(\frac{\pi}{4}) - f(\frac{\pi}{2})}{\frac{\pi}{4} - \frac{\pi}{2}} = \frac{1 - 0}{\frac{\pi}{4}}$$

$$= \frac{\pi}{4}$$

$$\Rightarrow \frac{-\frac{\pi}{4}}{\frac{\pi}{4}} = -1 \rightarrow \text{جواب}$$

$$f(0) \rightarrow (1)^n (1) = 1$$

$$\frac{1 + \lambda a - \lambda}{+1} = -1$$

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$$f(1) \rightarrow (\frac{1}{\lambda})^n (-a+1) = -\lambda a + 1$$

$$\lambda a = -\frac{1}{\lambda} \rightarrow a = -\frac{1}{\lambda^2}$$

$$f(n) = (n^n + 1)^n \left(-\frac{n}{\lambda} + 1\right)$$

$$\begin{aligned} f'(n) &= n(n^n + 1)^n \left(-\frac{n}{\lambda} + 1\right) \\ &+ \left(-\frac{1}{\lambda}\right) (n^n + 1)^n = \frac{n^n}{\lambda} \end{aligned}$$

$$+ \frac{1}{\lambda} \times \lambda = 1$$

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