

ساده کنه با زرم دفه  
 قبل طرح = فم  
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 نزادج طرح:  $(a^2)$   
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$$\lim_{n \rightarrow 1} \frac{a^{n^2} - \sqrt{a}n + \sqrt{a}}{a^{n^2} - \sqrt{a}n + \sqrt{a}} = \frac{0}{0} \text{ (rule)}, \frac{(a-1)(a^2-1)}{(a-1)(a-1)} \rightarrow \frac{a-1}{a-1} = 1$$

$$a^{n^2} - \sqrt{a}n + \sqrt{a} = (a-1)(a-1)$$

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$$\lim_{n \rightarrow 0} \frac{a^{n^2} - 1 - (a^{n^2+1})}{a} = \frac{a^{2n} - a^{n+1}}{a} = \frac{-a}{a} = -1$$

$$a^{n-1} \rightarrow a^0 = 1 - 1 = 0$$

$$a^0 = 1 - 1 = 0$$

$$\lim_{a \rightarrow 4} \frac{a-4}{\sqrt{a}-2} = \frac{0}{0} \text{ (rule)}, \frac{(\sqrt{a}-2)(\sqrt{a}+2)}{\sqrt{a}-2} = \sqrt{a}+2 \xrightarrow{a=4} 2+2 = 4$$

$$\lim_{a \rightarrow 4} \frac{a - \sqrt{4a}}{4a^2 - a - 4} = \frac{0}{0} \text{ (rule)}, \frac{\sqrt{a}(\sqrt{a}-\sqrt{4})}{(a-4)(4a-4)} = \frac{\sqrt{a}}{\sqrt{a}+2} \xrightarrow{a=4} \frac{2}{2+2} = \frac{1}{2}$$

$$4a^2 - a - 4 \rightarrow a^2 - a - 1 = (a-2)(a+2)$$

$$4a^2 - a - 4 = (a-2)(4a+2) = (\sqrt{a}-\sqrt{4})(\sqrt{a}+\sqrt{4})(4a-4)$$

$$\lim_{a \rightarrow 4} \frac{1 - \sqrt{a}}{4a - \sqrt{4a}} = \frac{0}{0} \text{ (rule)}, \times \frac{1 + \sqrt{a}}{1 + \sqrt{a}} \times \frac{4a - \sqrt{4a}}{4a - \sqrt{4a}} = \frac{1-a}{4a - \sqrt{4a}}$$

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



$\mu_m + t - 14$

$\lim_{a \rightarrow t} \frac{\sqrt{\mu a + t} - \mu}{\sqrt{\omega a + v} - \mu} \times \frac{\infty}{\infty} \times \frac{1}{1} \rightarrow \mu_a^t = \mu \quad (9)$

$\mu(a/t)$   
 $\omega a + v - \mu v$

$\frac{\mu a - \mu^2}{\omega a - \mu v} \times \frac{\mu v}{\mu} = \frac{\mu}{\omega}$

$\omega(m/t)$   
 $\mu a + \sqrt{\omega a} - t$

$\lim_{a \rightarrow 1} \frac{\sqrt{\mu a + t} - t}{\sqrt{\omega a} - 1} \times \frac{\infty}{\infty} \times \frac{1}{1} \rightarrow \mu_a^t = \mu \quad (10)$

$\frac{\mu a + \sqrt{\omega a} - t}{a - 1} \times \frac{\mu}{\mu} = \frac{(\sqrt{\omega a} - 1)(\mu a + t)}{(\sqrt{\omega a} - 1)(\sqrt{\omega a} + 1)} \times \frac{\mu}{\mu} \rightarrow \frac{\mu}{\sqrt{\omega}} \times \frac{\mu}{\mu} = \frac{\mu}{\sqrt{\omega}}$

$\mu(\sqrt{\omega a})^t + \sqrt{\omega a} - t = (\mu \sqrt{\omega a} + t)(\sqrt{\omega a} - 1)$

$\sqrt{\omega a}^t + \sqrt{\omega a} - t = (\sqrt{\omega a} + t)(\sqrt{\omega a} - \mu)$

$\lim_{a \rightarrow \pi} \frac{1 + \cos^t a}{\sin^t a} = \frac{0}{0}$  L'Hôpital,  $\frac{(1 + \cos^t a)(1 + \cos^t a - \cos a)}{(1 - \cos a)(1 + \cos a)}$  (11)

$= \frac{1 + \cos^t a - \cos a}{1 - \cos a} \xrightarrow{a \rightarrow \pi} \frac{1 + 1 + 1}{1 - 1} = \frac{\mu}{\mu}$

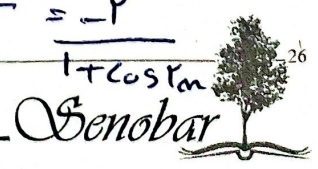
$\lim_{a \rightarrow \frac{\pi}{2}} \frac{1 - \tan a}{\sin a - \cos a} = \frac{0}{0}$  L'Hôpital,  $\frac{1 - \frac{\sin a}{\cos a}}{\sin a - \cos a} = \frac{\cos a - \sin a}{\cos a (\sin a - \cos a)} = \frac{-1}{\cos a}$  (12)

$\xrightarrow{a \rightarrow \frac{\pi}{2}} \frac{-1}{\frac{\sqrt{2}}{2}} = \frac{-\sqrt{2}}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = -\sqrt{2}$

$\lim_{a \rightarrow \frac{\pi}{2}} \frac{\tan^t a - 1}{\cos^t a} = \frac{1 - \cos^t a}{1 + \cos^t a} = \frac{1 - \cos^t a}{1 + \cos^t a} = -1$  (13)

$\xrightarrow{m \rightarrow \frac{\pi}{2}} \frac{-1}{1 + 0} = -1$

$\tan^t a = \frac{1 - \cos^t a}{1 + \cos^t a}$



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