

بازدم دفتر C

تالیف شماره 30

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$$\lim_{x \rightarrow 1} \frac{kx^p - \sqrt{x+1}}{ax^p - \lambda x + \mu} \rightarrow \frac{(k-1)(1-\mu)}{(a-1)(1-\mu)} \rightarrow \frac{1}{p} \quad (5) \quad .1$$

$$\lim_{x \rightarrow 0} \frac{|kx-1| - |kx+1|}{x} \begin{matrix} \xrightarrow{+} \frac{kx-1 - kx-1}{x} = \frac{-2}{x} = -\infty \\ \xrightarrow{-} \frac{kx-1 - kx+1}{x} = \frac{0}{x} = 0 \end{matrix} \quad (6) \quad .2$$

$$\hookrightarrow \frac{-kx+1 - kx-1}{x} = -\frac{2}{x}$$

$$\lim_{x \rightarrow p^+} \frac{x-p}{\sqrt{x}-p} = \frac{0}{0} \quad (7) \quad .3$$

$$\frac{(\sqrt{x+p})(\sqrt{x}-p)}{\sqrt{x}-p} = \frac{(\sqrt{x+p})(\sqrt{x}-p)}{\sqrt{x}-p} = \sqrt{x+p} \quad (8)$$

$$\lim_{x \rightarrow p} \frac{x - \sqrt{px}}{kx^p - x - q} = \frac{0}{0} \rightarrow \frac{x(x-p)}{\frac{kx^p - px}{p} \times \frac{1}{k}} = \frac{p}{k} \quad (9) \quad .4$$

$$kx^p - x - q \rightarrow x^p - x - 1 = (x-p)(x + \frac{p}{p}) \quad (10)$$

$$\lim_{x \rightarrow 1} \frac{1 - \sqrt{x}}{p - \sqrt{x-a}} = \frac{0}{0} \rightarrow \frac{1-x}{k-a+x} \times \frac{k}{k} = k \times \frac{1-x}{k-a+x} = -k \quad (11) \quad .5$$

$$\text{hop} \rightarrow \frac{\frac{1}{k\sqrt{x}}}{\frac{1}{k\sqrt{x-a}}} = \frac{-\frac{1}{2k\sqrt{x}}}{-\frac{1}{2k\sqrt{x-a}}} = \frac{\sqrt{x-a}}{\sqrt{x}} = -k \quad (12)$$

$$\lim_{x \rightarrow k} \frac{\sqrt{u^2 x + k} - k}{\sqrt{ax + v} - u} \rightarrow \frac{0}{0}$$

.6

① hop \rightarrow

$$\frac{u}{\frac{u \sqrt{u^2 x + k}}{a}} = \frac{\frac{u}{a}}{\frac{u}{\sqrt{u^2 x + k}}} = \frac{1}{\frac{a}{\sqrt{u^2 x + k}}}$$

$$\lim_{x \rightarrow 1} \frac{\sqrt{u^2 x + \sqrt{x}} - u}{\frac{u}{\sqrt{x}} - 1} = \frac{0}{0} \rightarrow \frac{u^2 x + \sqrt{x} - u^2}{x - 1} \times \frac{u}{u} = \frac{0}{0} \rightarrow .7$$

hop \rightarrow

$$\frac{u + \frac{1}{u\sqrt{x}}}{1} \times \frac{u}{u} \rightarrow \frac{u}{u} \times \frac{u}{u} = \frac{u}{u}$$

$$\lim_{x \rightarrow \pi} \frac{1 + \cos^u x}{\sin^u x} = \frac{0}{0} \rightarrow \frac{(1 + \cos x)(1 + \cos^u x - \cos^u x)}{(1 - \cos x)(1 + \cos x)}$$

.8

$$\frac{u}{u}$$

$$\lim_{x \rightarrow \frac{\pi}{4}} \frac{1 - \tan x}{\sin x - \cos x} = \frac{0}{0} \rightarrow \frac{\cos x - \sin x - 1}{\cos x} = \frac{-1}{\cos x} = -\frac{1}{\frac{\sqrt{2}}{2}}$$

.9

$$-\frac{u}{\sqrt{u}} = -\frac{u\sqrt{u}}{u} = -\sqrt{u}$$

$$\lim_{\alpha \rightarrow \frac{\pi}{2}} \frac{\tan^p \alpha - 1}{\cos^p \alpha} = \frac{\cdot^{\infty}}{\cdot^{\infty}} \rightarrow \frac{\sin^p \alpha - \cos^p \alpha}{\cos^p \alpha} = \frac{-1}{\cos^p \alpha - \sin^p \alpha} = -\frac{1}{\cos^p \alpha} = -p$$