

$$\lim_{n \rightarrow \infty} \frac{n^2 - 1}{n^2 + an + b} = -\infty \quad a+b=? \quad -\epsilon + \epsilon = 0$$

$$n^2 + an + b = (n-\epsilon)^2 = n^2 + \epsilon - \epsilon n \Rightarrow a = -\epsilon, b = \epsilon$$

چون ϵ منفی می باشد

$$\lim_{n \rightarrow (\sqrt[n]{\epsilon})} \frac{n^2 \sqrt[n]{\epsilon}}{n^2 + an + b} = +\infty \quad \left[\frac{b}{a}\right] = ? \quad \left[\frac{\epsilon^{\frac{1}{n}}}{-\epsilon^{\frac{1}{n}}}\right] = -1$$

$$n^2 + an + b = (n - \sqrt[n]{\epsilon})^2 \quad n^2 - 2\sqrt[n]{\epsilon}n + \sqrt[n]{\epsilon}$$

چون $\sqrt[n]{\epsilon}$ منفی می باشد

$$b = \sqrt[n]{\epsilon} \quad a = -\sqrt[n]{\epsilon} = -\sqrt[n]{\epsilon} = -\epsilon^{\frac{1}{n}}$$

$$\lim_{n \rightarrow (\frac{1}{\sqrt[n]{\epsilon}})^+} \frac{[-n] + a}{\left|\frac{1}{\sqrt[n]{\epsilon}}n + a\right| + a} = -\infty \quad [a] = ? \quad \frac{[-\frac{1}{\epsilon}] + a}{\left|\frac{1}{\sqrt[n]{\epsilon}}n + a\right| + a} = -\infty = \frac{-1+a}{1+a+a}$$

اگر $a + \frac{1}{\epsilon} > 0$ که از منفی خارج می شود پس حداکثر از منفی بود ۱-

$$\frac{-1+a}{1+a+a} = -\infty \quad \frac{1}{\epsilon} + a = 0 \rightarrow a = -\frac{1}{\epsilon}$$

پس قدر مطلق را مثبت برسی می کنی

$$\lim_{n \rightarrow (-\frac{1}{\epsilon})^+} \frac{\frac{1}{\sqrt[n]{\epsilon}}n - \left[\frac{1}{\sqrt[n]{\epsilon}}n\right] - a}{\left|\frac{1}{\sqrt[n]{\epsilon}}n + \left[\frac{1}{\sqrt[n]{\epsilon}}n\right]\right| + a} = \frac{-1+a}{-1+a+a} = \frac{1}{0^+} = +\infty$$

[-1/ε] = -1

$$\lim_{n \rightarrow \infty} \frac{n^2 - \epsilon}{n^2 - [n^2]} = \frac{(n-\epsilon)(n+\epsilon)}{n^2 - \epsilon} = \frac{n+\epsilon}{n^2 + \epsilon + n} = \frac{\epsilon}{1\epsilon} = \frac{1}{\epsilon}$$

$$\lim_{n \rightarrow -1} \frac{n^2 + 10n + 19}{1\epsilon + 9\sqrt[n]{\epsilon}} = \frac{(n+5)(n+1)}{1\epsilon + 9\sqrt[n]{\epsilon}} = \frac{(n+5)(\sqrt[n]{\epsilon} + 5)(\sqrt[n]{\epsilon} + 1)}{9(\sqrt[n]{\epsilon} + 5)} = -1\epsilon$$

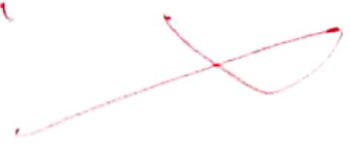
$$\lim_{n \rightarrow 0^-} \frac{\sqrt{\epsilon + n} - \sqrt{\epsilon - n}}{\sqrt{1 - \cos n}} \times \frac{(\sqrt{\epsilon + n} + \sqrt{\epsilon - n})}{(\sqrt{\epsilon + n} + \sqrt{\epsilon - n})} = \frac{\epsilon + n - \epsilon + n}{(\sqrt{1 - \cos n}) \times 2\sqrt{\epsilon}} \times \frac{\sqrt{1 + \cos n}}{\sqrt{1 + \cos n}} = \frac{\epsilon + 1}{\sqrt{1 - \cos^2 n} \times 2\sqrt{\epsilon}} = \frac{1}{2\sqrt{\epsilon}}$$

$$\lim_{n \rightarrow 0} \frac{k + \cos(\sqrt{n})}{kn^2} = \frac{-\sqrt{n} \sin(\sqrt{n})}{2kn} = \frac{-a \cos(\sqrt{n})}{2k} = \frac{-a}{2k} = \frac{1}{2k}$$

$$-a = 9k \rightarrow a = -9k \quad \frac{-9k}{k} = -9$$

$$\lim_{n \rightarrow (ca)^+} \frac{c\sqrt{n-ca} + c\sqrt{n} - \sqrt{ca}}{\sqrt{n^2-9a^2}} \quad \text{اذ } c = \frac{\sqrt{n-ca}}{\sqrt{n^2-9a^2}} + \frac{c\sqrt{n} - \sqrt{ca}}{\sqrt{n^2-9a^2}} \quad c(\sqrt{n} - \sqrt{ca}) \quad (9)$$

$$\frac{c(\sqrt{n} - \sqrt{ca}) \times (\sqrt{n} + \sqrt{ca})}{\sqrt{n^2-9a^2} \times (\sqrt{n} + ca)} = \frac{c(n-ca)}{(n-ca)(n+ca)} \quad \text{في } \frac{\sqrt{n} + \sqrt{ca}}{\sqrt{n} + ca} = c\sqrt{n} + c\sqrt{ca}$$



$$\lim_{n \rightarrow (-1)} \frac{1 - K[n]}{n^2 - 1} = -\infty \quad (K[n], \cos K[n])$$

تاكيد

(10)

$$-1^+ \rightarrow \frac{1+K}{0^-} = -\infty \rightarrow 1+K > 0 \quad \downarrow \quad K > -1$$

$$-1^- \rightarrow \frac{1+K}{0^+} = -\infty \rightarrow 1+K < -\frac{1}{2} \quad \downarrow \quad K < -\frac{3}{2}$$

$$-1 < K < -\frac{1}{2}$$

$$-1 < K < -\frac{3}{2} \rightarrow$$

تاكيد

بازرسی

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