

۲۰. سکون - کتب

پارسی بنی زاد ، دوازدهم دفتر B

$$\lim_{n \rightarrow 2} \frac{2n - 2}{n^2 + an + b} = -\infty \rightarrow \frac{-1}{n^2 + an + b} = -\infty \quad (1)$$

$$n^2 + an + b = 0^+ \rightarrow (n - 2)^2 = n^2 - \varepsilon n + \varepsilon \quad (2)$$

$$a = -\varepsilon$$

$$b = \varepsilon$$

$$a + b = 0$$

$$\lim_{n \rightarrow \sqrt[3]{\varepsilon}} \frac{n}{n^2 + an + b} = +\infty \rightarrow \frac{\sqrt[3]{\varepsilon}}{n^2 + an + b} = +\infty \quad (3)$$

$$n^2 + an + b = 0^+ \rightarrow (n - \sqrt[3]{\varepsilon})^2 = n^2 - 2\sqrt[3]{\varepsilon}n + \sqrt[3]{\varepsilon^2}$$

$$a = -2\sqrt[3]{\varepsilon}$$

$$b = \sqrt[3]{\varepsilon^2}$$

$$\left[\frac{b}{a} \right] = -1$$

$$\lim_{n \rightarrow (\frac{1}{\sqrt{n}})^+} \frac{[-n] + a}{\left| \frac{\sqrt{n}}{n} n + a \right| + a} = -\infty \quad (4)$$

$$\rightarrow n > \frac{1}{\sqrt{n}} \quad \frac{\sqrt{n}}{n} n > \frac{1}{\sqrt{n}}$$

$$\left| \frac{1}{\sqrt{n}} + a \right| + a = 0^+ \quad \begin{cases} \left| a + \frac{1}{\sqrt{n}} \right| > 0 \rightarrow a + \frac{1}{\sqrt{n}} = 0 & a = -\frac{1}{\sqrt{n}} \\ \left| a + \frac{1}{\sqrt{n}} \right| < 0 \rightarrow a - a - \frac{1}{\sqrt{n}} = -\frac{1}{\sqrt{n}} \times \end{cases}$$

$$a = -\frac{1}{\sqrt{n}} \rightarrow \frac{-\frac{1}{\sqrt{n}}}{0^+} = -\infty$$

$$n > -\frac{1}{\sqrt{n}} \quad n^2 < \frac{1}{\varepsilon} \quad \frac{1}{n^2} > \varepsilon \quad \frac{-1}{n^2} < -\varepsilon \quad (5)$$

$$\lim_{n \rightarrow (-\frac{1}{\sqrt{n}})^+} \frac{14n - [-2(\varepsilon^+)]}{2\varepsilon n + 14} = \frac{14n + 9}{2\varepsilon n + 14} = \frac{1}{0^+} = +\infty \quad (6)$$

$$\lim_{n \rightarrow 2^+} \frac{n^2 - 4}{n^2 - 1} = \frac{(n-2)(n+2)}{(n-1)(n^2 + 2n + 1)} = \frac{4}{12} = \frac{1}{3} \quad (2)$$

$$\lim_{n \rightarrow -1} \frac{n^2 + 10n + 14}{12 + 4\sqrt[3]{n}} = \frac{(n+2)(n+1)}{4(2 + \sqrt[3]{n})} \times \frac{\text{نيل فخرج}}{\text{نيل فخرج}} \quad (4)$$

$$= \frac{(n+2)(n+1)(\epsilon + \sqrt[3]{n^2} - 2\sqrt[3]{n})}{4(n+1)} = \frac{-4(\epsilon + \epsilon + \epsilon)}{4} = -12 \quad (2)$$

$$\lim_{n \rightarrow 0} \frac{\sqrt{2+2n} - \sqrt{2-n}}{\sqrt{1-\cos n}} \times \frac{\text{نيل فخرج}}{\text{نيل فخرج}} = \frac{(2+2n) - (2-n)}{\sqrt{1-\cos n}(\sqrt{2+2n} + \sqrt{2-n})} \quad (V)$$

$$= \frac{\epsilon n}{\sqrt{\frac{n^2}{2}} \times 2\sqrt{2}} = \frac{\frac{|n|}{\sqrt{2}} \times 2\sqrt{2}}{-n} = \frac{2n}{-n} = (-2) \quad (2)$$

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

$$\frac{k+1 - an^2}{kn^2} = \frac{0}{0} = \frac{1}{2} \quad k+1=0 \rightarrow k=-1$$

$$\frac{-an^2}{-2n^2} = \frac{a}{2} = \frac{1}{2} \rightarrow a=4$$

$$\frac{a}{k} = \frac{4}{-1} = -4 \quad (2)$$

$$\text{hep} \rightarrow \frac{1}{\sqrt{n-9a}} + \frac{n}{\sqrt{n-9a}} - \frac{n}{\sqrt{n-9a}} = \frac{\sqrt{n^2-9a^2}}{n\sqrt{n-9a}} \quad (9)$$

$$= \frac{\sqrt{n+9a} \times \sqrt{n-9a}}{n \times \sqrt{n-9a}} = \frac{\sqrt{n+9a}}{n} = \frac{\sqrt{4a}}{9a}$$

$$\lim_{n \rightarrow (-1)^+} \frac{1 - k[n]}{n^r - 1} = \frac{1+k}{n^r - 1} \cdot \frac{1+k}{0^-} = -\infty \quad (1)$$

$$k+1 > 0 \quad k > -1$$

$$\lim_{n \rightarrow (-1)^-} \frac{1 - k[n]}{n^r - 1} = \frac{1+k}{n^r - 1} \cdot \frac{1+k}{0^+} = -\infty$$

$$1 + r k < 0 \quad k < -\frac{1}{r} \Rightarrow k = \left(-1, -\frac{1}{r}\right)$$

$$x = k\pi = \left(-\pi, -\frac{\pi}{r}\right)$$

$$y = \cos k\pi = \left(\cos -\pi, \cos -\frac{\pi}{r}\right) = (-1, 0)$$

و y هر دو منفی اند $\leftarrow$ $\frac{1}{r}$ $\frac{1}{r}$ $\frac{1}{r}$