

"فصل گل برضه" "در از دهم دفتر A" "شماره ۱۹" "تالیف"

(i) 1) $\lim_{x \rightarrow -r^+} r \left[\frac{r-x}{r} \right] + a \left[\frac{x+r}{r} \right] \xrightarrow{(I)} r \left[\frac{0}{r} \right] + a \left[\frac{r+r}{r} \right] \rightarrow r + r \left[\frac{1}{r} \right] + a \left[\frac{-r^+ + r}{r} \right] = r \quad (II)$
 2) $\lim_{x \rightarrow -r^-} r \left[\frac{x+r}{r} \right] + r + a \left[\frac{-r^- + r}{r} \right] = r - a \xRightarrow{(II)} r - a = r \rightarrow a = r \rightarrow \left[\frac{r}{r} \right] = 1$

④ $\lim_{x \rightarrow (\frac{\pi}{2})^-} [r \sin x - 1] \rightarrow \lim_{x \rightarrow (\frac{\pi}{2})^-} [r \sin x] - 1 \rightarrow \lim_{x \rightarrow (\frac{\pi}{2})^-} [r \cdot \frac{1}{r}] \rightarrow 1 \rightarrow \lim_{x \rightarrow (\frac{\pi}{2})^-} 0 - 1 = \boxed{-1}$

$$\textcircled{11} \lim_{x \rightarrow -\frac{1}{r}} [1x^r - x] \rightarrow \begin{cases} \textcircled{i} \lim_{x \rightarrow -\frac{1}{r}^+} [1x^r - x] \rightarrow \lim_{x \rightarrow -\frac{1}{r}^+} [-\kappa^+ + \frac{1}{r}^-] = -\kappa \\ \textcircled{ii} \lim_{x \rightarrow -\frac{1}{r}^-} [1x^r - x] \rightarrow \lim_{x \rightarrow -\frac{1}{r}^-} [-\kappa^- + \frac{1}{r}^+] = -\kappa \end{cases} \rightarrow \textcircled{-\kappa}$$

$$\textcircled{K} \lim_{x \rightarrow -\frac{1}{r^-}} \frac{1 \cdot x - \Delta + \left[\frac{r}{x^r} \right]}{1/x - \left[-\frac{r}{x^r} \right]} \rightarrow \frac{-\Delta - \Delta + \left[1r^+ \right]}{-\Lambda - \left[-\Lambda^- \right]} \xrightarrow{\frac{r}{\frac{1}{x^+}} = 1r^+} \frac{r^+}{0^+} = +\infty$$

$$\textcircled{D} \lim_{x \rightarrow 1^+} \frac{\sin^2 x}{1 + \cos x} \xrightarrow{1 - \cos^2 x} \frac{(1 - \cos x)(1 + \cos x)}{1 + \cos x} \rightarrow \lim_{x \rightarrow 1^+} 1 - \cos x = 0$$

$$\textcircled{9} \lim_{x \rightarrow -1} \frac{\sqrt{1+x} - \sqrt{1-x}}{1+x} \times \frac{(\sqrt{1+x} - \sqrt{1-x}) + 1}{(\sqrt{1+x} - \sqrt{1-x}) - 1} \times \frac{\sqrt{1+x} + \sqrt{1-x}}{\sqrt{1+x} + \sqrt{1-x}}$$

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

$\lim_{x \rightarrow \infty} \frac{a + \sqrt{bx+c}}{x} = \frac{a - \sqrt{bx+c}}{a - \sqrt{bx+c}} \rightarrow \lim_{x \rightarrow \infty} \frac{a^2 - bx - c}{x(a - \sqrt{bx+c})} \rightarrow \frac{-b}{a - \sqrt{c}} = \frac{1}{K}$
 $* a + \sqrt{c} \rightarrow a - \sqrt{c}$
 $\rightarrow \frac{b}{xc} = \frac{1}{K} \rightarrow \sqrt{c = rb} \quad (I)$
 $\rightarrow \varepsilon b = rb + \sqrt{rb} \rightarrow rb + \sqrt{rb} \rightarrow \sqrt{b}(\sqrt{b} + \varepsilon) \rightarrow \sqrt{b}(\sqrt{b} - \varepsilon)$
 $\frac{+b}{+rb + \sqrt{rb}} = \frac{1}{\varepsilon}$
 $\frac{-b}{a - \sqrt{c}} = \frac{1}{\varepsilon} \rightarrow \frac{-b}{ra - \sqrt{c}} = \frac{1}{\varepsilon} \rightarrow \sqrt{rb} = a \quad (II)$

$$\textcircled{10} \lim_{x \rightarrow 1} \frac{b \sqrt{x} + \sqrt[3]{x} - b}{ax - b} \xrightarrow{\text{L'Hôpital}} \frac{\frac{b}{2\sqrt{x}} + \frac{1}{3\sqrt[3]{x^2}}}{a} \rightarrow \frac{b + \frac{1}{3}}{a} = \left[\frac{1}{4} \right]$$

۸ اراہہ سرال $\xrightarrow{(II)}$ $\frac{b}{\text{غدد}}$

$$\rightarrow \frac{ab}{c} = \frac{\frac{-9}{r} \times \frac{9}{s}}{\frac{9}{r}} = \boxed{\frac{-9}{s}}$$