

$$k) \lim_{x \rightarrow 0^-} \left(\frac{2}{x} - \frac{3}{x+1} \right) = [\infty - \text{finite}] = \lim_{x \rightarrow 0^-} \frac{2(x+1) - 3x}{x(x+1)} = \lim_{x \rightarrow 0^-} \frac{2x+2-3x}{x^2+x} = \lim_{x \rightarrow 0^-} \frac{-x+2}{x^2+x} = \frac{2}{0} = -\infty$$

$$l) \lim_{x \rightarrow -1} \frac{x-1}{x+1} = \frac{-2}{0} = \begin{cases} \lim_{x \rightarrow -1^-} \frac{x-1}{x+1} = \frac{-}{-} = +\infty \\ \lim_{x \rightarrow -1^+} \frac{x-1}{x+1} = \frac{-}{+} = -\infty \end{cases} \quad \text{No limit}$$

$$m) \lim_{x \rightarrow 5^+} \left(\frac{2x}{x+5} \right)^{\frac{1}{x-5}} = 2^{\infty} = \infty$$

$$n) \lim_{x \rightarrow 0} \frac{5^x + 3x - 1}{(x+1)^2} = \frac{0}{1} = 0$$