

الف) $\lim_{n \rightarrow \infty} [-n^2 + 6n^2 + n] \rightarrow y = -1^2 n^2 + 1^2 n^2 = 1^2 n^2 (n-1)$ $\begin{array}{c} 1^0 \\ 1^1 \end{array} \Rightarrow \begin{array}{c} 1^+ \\ 1^- \end{array} \begin{array}{c} [F^+] = n \\ [F^-] = n \end{array}$ $\lim_{n \rightarrow \infty} [-n^2 + 6n^2 + n] \rightarrow \begin{array}{c} [F^+] = n \\ [F^-] = n \end{array}$	٦
الف) $\lim_{n \rightarrow \infty} \frac{ n^2 - 1 }{n^2 - 4}$ $\begin{array}{c} r^+ \\ r^- \end{array} \rightarrow \frac{n^2 - 1}{n^2 - 4} = \frac{(n-1)(n^2 + 4)}{(n-2)(n+2)} = \frac{1^2}{2} \cdot n$ $\frac{-1^2}{4} = -\frac{1}{4}$ $\lim_{n \rightarrow \infty} \frac{ \sin n }{\sin 2n}$ $\begin{array}{c} r^+ \\ r^- \end{array} \rightarrow \frac{-\sin n}{\sin 2n} = \frac{-\sin n}{2 \sin n \cos n} = \frac{-1}{2 \cos n} = \frac{-1}{2(-1)} = \frac{1}{2}$ $\begin{array}{c} r^+ \\ r^- \end{array} \rightarrow \frac{\sin n}{\sin 2n} = \frac{\sin n}{2 \sin n \cos n} = \frac{1}{2 \cos n} = \frac{1}{2(-1)} = -\frac{1}{2}$	٧
الف) $\lim_{n \rightarrow \infty} \sqrt{\cos n}$ $\begin{array}{c} r^+ \\ r^- \end{array} \rightarrow \begin{array}{c} \sqrt{\cos n} \\ \sqrt{\cos n} \end{array}$ $\sqrt{n-2\sqrt{n}}$ $\begin{array}{c} r^+ \\ r^- \end{array} \rightarrow \begin{array}{c} \sqrt{n-2\sqrt{n}} \\ \sqrt{n-2\sqrt{n}} \end{array}$	٨
الف) $\lim_{n \rightarrow \infty} \frac{[\sin n]}{n^2 (n-1)}$ $\frac{-1^0}{\infty} = \frac{-1}{\infty} = \frac{1}{\infty} = 0$ $\lim_{n \rightarrow \infty} \frac{n^2 - [n^2]}{n - [n]}$ $\begin{array}{c} r^+ \\ r^- \end{array} \rightarrow \frac{n^2 - 1}{n - 1} = \frac{(n-1)(n+1)}{n-1} = n+1$ $\begin{array}{c} r^+ \\ r^- \end{array} \rightarrow \frac{n^2 - 1}{n - 1} = \frac{1}{1} = 1$	٩
الف) $y = 10n^2 - 10n^2 = 10n^2 (n^2 - 1) = 10n^2 (n-1)(n+1)$ $\begin{array}{c} -1^0 \\ -1^1 \end{array} \Rightarrow \begin{array}{c} -1^+ \\ -1^- \end{array} \begin{array}{c} [F^+] = n \\ [F^-] = n \end{array}$ $y = 10n^2 - 10n = 10n(n^2 - 1) = 10n(n-1)(n+1)$ $\begin{array}{c} -1^0 \\ -1^1 \end{array} \Rightarrow \begin{array}{c} -1^+ \\ -1^- \end{array} \begin{array}{c} [F^+] = n \\ [F^-] = n \end{array}$	١٠