

۱. الف) $\lim_{x \rightarrow r^+} \varepsilon x - r \Rightarrow \varepsilon(r) - r = \Delta$

ب) $\lim_{x \rightarrow r^-} f x - r \Rightarrow f(r) - r = \Delta$

۲. الف) $\lim_{x \rightarrow r^+} f[x] - r \Rightarrow f[r^+] - r \rightarrow f[r, 1] - r = 1 - r = \Delta$

ب) $\lim_{x \rightarrow r^-} f[x] - r \Rightarrow f[r^-] - r \rightarrow f[1, 9] - r = f - r = 1$

۳. الف) $\lim_{x \rightarrow r^+} [\varepsilon x - r] \Rightarrow [\varepsilon(r, 1) - r] = [\Delta, r] = \Delta$

ب) $\lim_{x \rightarrow r^-} [\varepsilon x - r] \Rightarrow [\varepsilon(1, 9) - r] = [\varepsilon, 4] = \varepsilon$

۴. الف) $[\lim_{x \rightarrow r^+} \varepsilon x - r] \Rightarrow \lim_{x \rightarrow r^+} \varepsilon x - r = \Delta \Rightarrow [\Delta] = \Delta$

ب) $[\lim_{x \rightarrow r^-} \varepsilon x - r] \Rightarrow \lim_{x \rightarrow r^-} \varepsilon x - r = \Delta \Rightarrow [\Delta] = \Delta$

۵. الف) $\lim_{x \rightarrow r} \frac{\varepsilon x - r}{x - r} \xrightarrow{r^+} \frac{1r - r}{r^+ - r} = \frac{0}{0^+} = +\infty$
 $\xrightarrow{r^-} \frac{1r - r}{r^- - r} = \frac{0}{0^-} = -\infty$

ب) $\lim_{x \rightarrow r} \frac{\varepsilon x - r}{(x - r)^2} \xrightarrow{r^+} \frac{1r - r}{(r^+ - r)^2} = \frac{0}{0^+} = +\infty$
 $\xrightarrow{r^-} \frac{1r - r}{(r^- - r)^2} = \frac{0}{0^-} = -\infty$

تلف سماره ۲۸

اصغر دانش

الف) $\lim_{n \rightarrow 3} \frac{\varepsilon n - 3}{\sqrt{n-3}}$ $\xrightarrow{3+} \frac{a}{\sqrt{0+}} = +\infty$.6
 $\xrightarrow{3-} \frac{a}{\sqrt{0-}} = \text{تعریف نشده}$

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

1	3
+	-
+	+

$\xrightarrow{3+} \frac{a}{\sqrt{0+}} = +\infty$
 $\xrightarrow{3-} \frac{a}{\sqrt{0-}} = \text{تعریف نشده}$

الف) $\lim_{n \rightarrow 3} \frac{\varepsilon n - 3}{n^2 - \sqrt{n} + 12} = \frac{\varepsilon n - 3}{(n-3)(n-4)}$

3	4
+	-
+	+

.7

$\xrightarrow{3+} \frac{a}{0-} = -\infty$
 $\xrightarrow{3-} \frac{a}{0+} = +\infty$

$\rightarrow \lim_{n \rightarrow 3} \frac{\varepsilon n - 3}{[n-3]}$ $\xrightarrow{3+} \frac{a}{\{0+\}} = \frac{a}{0^+} = \text{تعریف نشده}$
 $\xrightarrow{3-} \frac{a}{\{0-\}} = \frac{a}{-1} = -a$

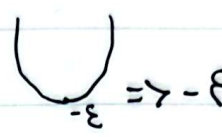
الف) $\lim_{n \rightarrow 3} [3n] + [-2n]$ $\xrightarrow{3+} [3 \times 3, 1] + [-2 \times 3, 1] = 9 - 6 = 3$.8
 $\xrightarrow{3-} [3 \times 2, 9] + [-2 \times 2, 9] = 6 - 4 = 2$


ب) $\lim_{n \rightarrow -4} [-2n] + [2n]$ $\xrightarrow{-4+} [-2 \times (-4), 1] + [2 \times (-4), 9] = 8 - 12 = -4$
 $\xrightarrow{-4-} [-2 \times (-4), 1] + [2 \times (-4), 9] = 8 - 12 = -4$

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الف - شماره ۲۹

اصغر ماریس

الف) $\lim_{n \rightarrow 2} [n^2 - 4n]$ $\Rightarrow x_{S \min} = \frac{-b}{2a} = \frac{4}{2} = 2$  $\Rightarrow -4$.9

ب) $\lim_{n \rightarrow 2} [-n^2 + 4n]$ $\Rightarrow x_{S \max} = \frac{-b}{2a} = \frac{-4}{-2} = 2$  $\Rightarrow 4$

الف) $\lim_{n \rightarrow 2} \frac{|n-2|}{n^2 - 3n + 2}$ $\begin{cases} 2+ & \frac{n-2}{(n-2)(n-1)} = \frac{1}{n-1} = 1 \\ 2- & \frac{2-n}{(n-2)(n-1)} = \frac{-1}{n-1} = -1 \end{cases}$.10
صندار

$\lim_{n \rightarrow 1} \frac{n - [n]}{n^2 - 1}$ $\begin{cases} 1+ & \frac{n-1}{(n-1)(n+1)} = \frac{1}{n+1} = \frac{1}{2} \\ 1- & \frac{n}{(n-1)(n+1)} = \frac{n}{n^2-1} = \frac{1}{2} \end{cases}$ صندار