

۱۸،۵

نیاسن ساه نظری

تکلیف ۲۹

یازدهم دفتر C

الف) $\lim_{x \rightarrow 2^+} f_{x-3} = f_{x \times 2 - 3} = \Delta$ ب) $\lim_{x \rightarrow 2^-} f_{x-3} = f_{x \times 2 - 3} = \Delta$ ①

$x > 2$ $x < 2$

$f_x > 1 \rightarrow f_{x-3} > \Delta$ $f_x < 1 \rightarrow f_{x-3} < \Delta$ ⑤

الف) $\lim_{x \rightarrow 2^+} f[x] - 3$ ②

$x = 2,01 \rightarrow [x] = 2 \rightarrow f[x] = 1 \rightarrow f[x] - 3 = \Delta$ ⑤

ب) $\lim_{x \rightarrow 2^-} f[x] - 3$

$x = 1,99 \rightarrow [x] = 1 \rightarrow f[x] - 3 = 1$

الف) $\lim_{x \rightarrow 2^+} [f_{x-3}]$ $x = 2,01$ ③

$f_{x-3} = f_{x \times 2,01 - 3} = \Delta,06 \rightarrow [f_{x-3}] = \Delta$ ⑤

ب) $\lim_{x \rightarrow 2^-} [f_{x-3}] \rightarrow x = 1,99$ ⑤

$f_{x-3} = f_{x \times 1,99 - 3} = 1,94 - 3 = 1,94$

$[f_{x-3}] = 1$

الف) $\left[\lim_{x \rightarrow 2^+} f_{x-3} \right] = \lim_{x \rightarrow 2^+} [f_{x-3}] \rightarrow x = 2,01$ ④

$f_{x-3} = 1,06 - 3 = \Delta,06$ ①

$[f_{x-3}] = \Delta$

ب) $\left[\lim_{x \rightarrow 2^-} f_{x-3} \right] = \lim_{x \rightarrow 2^-} [f_{x-3}] \rightarrow x = 1,99$ ④

$f_{x-3} = 1,94$ $\left[\lim_{x \rightarrow 2^-} f(x) - 3 \right] = [\Delta] = \Delta$

$[f_{x-3}] = 1$ = Δ

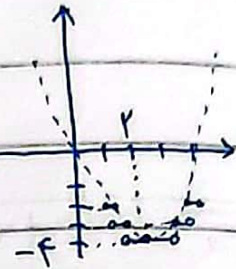
الف) $\lim_{x \rightarrow 3} \frac{f_{x-3}}{x-3}$ $x \rightarrow 3^+ = +\infty$ $x \rightarrow 3^- = -\infty$ ④

⑤

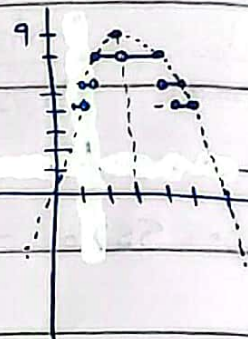
منظاره

$$\lim_{x \rightarrow 4} [-f(x)] + [f(x)] = \lim_{x \rightarrow 4^+} [-f(x)] + [f(x)] = \lim_{x \rightarrow 4} [-f(x)] + [f(x)] = 11$$

الف) $\lim_{x \rightarrow 2} [x^2 - f(x)] \rightarrow x \rightarrow 2^+ \rightarrow [x^2 - f(x)] = -f$
 $\rightarrow x \rightarrow 2^- \rightarrow [x^2 - f(x)] = -f$
 $\rightarrow = -f$



ب) $\lim_{x \rightarrow 2} [4x - x^2] \rightarrow x \rightarrow 2^+ \rightarrow 1$
 $\rightarrow x \rightarrow 2^- \rightarrow 1$
 $\lim_{x \rightarrow 2} [4x - x^2] = 1$



الف) $\lim_{x \rightarrow 2} \frac{|x-2|}{x^2 - 3x + 2} \rightarrow x \rightarrow 2^+ \rightarrow \frac{(x-2)}{(x-2)(x-1)} = \frac{1}{x-1} = 1$
 $\rightarrow x \rightarrow 2^- \rightarrow \frac{-(x-2)}{(x-2)(x-1)} = \frac{-1}{x-1} = -1$

$\lim_{x \rightarrow 2^+} \frac{|x-2|}{x^2 - 3x + 2} \neq \lim_{x \rightarrow 2^-} \frac{|x-2|}{x^2 - 3x + 2}$ \Rightarrow ليس له حد

ب) $\lim_{x \rightarrow 1} \frac{x - [x]}{x^2 - 1} \rightarrow x \rightarrow 1^+ \rightarrow [x] = 1 \rightarrow \frac{x-1}{(x-1)(x+1)} = \frac{1}{x+1} = \frac{1}{2}$
 $\rightarrow x \rightarrow 1^- \rightarrow [x] = 0 \rightarrow \frac{x}{x^2 - 1} = \frac{1}{x+1} = \frac{1}{2}$

$\lim_{x \rightarrow 1^+} \frac{x - [x]}{x^2 - 1} \neq \lim_{x \rightarrow 1^-} \frac{x - [x]}{x^2 - 1}$