

آیند کرسی یا زدهم دفتر B « تکلیف ۲۹ »

①

الف) $\lim_{x \rightarrow c^+} (f(x) - \mu) = a$ مربوط

ب) $\lim_{x \rightarrow c^-} (f(x) - \mu) = a$ مربوط

② الف) $\lim_{x \rightarrow c^+} (f(x) - \mu) = f(c^+) - \mu = f(c) - \mu = a$ ✓

ب) $\lim_{x \rightarrow c^-} (f(x) - \mu) = f(c^-) - \mu = a$

③ الف) $\lim_{x \rightarrow c^+} (f(x) - \mu) = a$

ب) $\lim_{x \rightarrow c^-} (f(x) - \mu) = f$

④ الف) $\left[\lim_{x \rightarrow c^+} (f(x) - \mu) \right] = a$ ب) $\left[\lim_{x \rightarrow c^-} (f(x) - \mu) \right] = a$

⑤ $\lim_{x \rightarrow \mu} \frac{f(x) - \mu}{x - \mu} = \begin{cases} \frac{0^+}{0^+} = +\infty \\ \frac{0^-}{0^-} = -\infty \end{cases}$ ب) $\lim_{x \rightarrow \mu} \frac{f(x) - \mu}{(x - \mu)^2} = \begin{cases} \frac{0^+}{(0^+)^2} = +\infty \\ \frac{0^-}{(0^-)^2} = +\infty \end{cases}$

⑥ $\lim_{x \rightarrow \mu} \frac{f(x) - \mu}{\sqrt{x - \mu}} = \begin{cases} \frac{0^+}{\sqrt{0^+}} = +\infty \\ \frac{0^-}{\sqrt{0^-}} = -\infty \end{cases}$ تقریب نشده

ب) $\lim_{x \rightarrow \mu} \frac{f(x) - \mu}{\sqrt{x^2 - 4x + \mu}} = \begin{cases} \frac{0^+}{\sqrt{0^+}} = +\infty \\ \frac{0^-}{\sqrt{0^-}} = -\infty \end{cases}$ تقریب نشده

9) $\lim_{x \rightarrow 2} \frac{x^2 - 4}{x^2 - 4x + 4}$ $\left(\begin{array}{l} x \rightarrow 2^+ \rightarrow \frac{0}{0} \rightarrow -\infty \\ x \rightarrow 2^- \rightarrow \frac{0}{0} \rightarrow +\infty \end{array} \right)$
 $\hookrightarrow (x-2)(x+2) / (x-2)^2$

$\rightarrow \lim_{x \rightarrow 2} \frac{x+2}{x-2}$ $\left(\begin{array}{l} x \rightarrow 2^+ \rightarrow \frac{4}{0} = +\infty \\ x \rightarrow 2^- \rightarrow \frac{4}{0} = -\infty \end{array} \right)$

10) الف) $\lim_{x \rightarrow 2} [3x] + [-2x]$ $\left(\begin{array}{l} x \rightarrow 2^+ \rightarrow 9 + (-4) = 5 \\ x \rightarrow 2^- \rightarrow [2] + (-4) = -2 \end{array} \right)$

$\rightarrow \lim_{x \rightarrow 2} [-2x] + [3x]$

$\left(\begin{array}{l} x \rightarrow 2^+ \rightarrow 2(2) + 3(2) = 10 \\ x \rightarrow 2^- \rightarrow 2(2) + 3(2) = 10 \end{array} \right)$

11) الف) $\lim_{x \rightarrow 2} [x^2 - 4x]$ $\left(\begin{array}{l} x \rightarrow 2^+ \rightarrow -4 \\ x \rightarrow 2^- \rightarrow -4 \end{array} \right)$

$\rightarrow \lim_{x \rightarrow 2} [5x - 2x^2]$ $\left(\begin{array}{l} x \rightarrow 2^+ \rightarrow 1 \\ x \rightarrow 2^- \rightarrow 1 \end{array} \right)$

10) الف) $\left(\begin{array}{l} x \rightarrow 2^+ \rightarrow \frac{2-2}{(2-2)(2-1)} = \frac{0}{0} = -1 \\ x \rightarrow 2^- \rightarrow \frac{-(2-2)}{(2-2)(2-1)} = \frac{0}{0} = -1 \end{array} \right)$

12) $\left(\begin{array}{l} x \rightarrow 2^+ \rightarrow \frac{(2-1)}{(2-1)(2+1)} = \frac{1}{2} \\ x \rightarrow 2^- \rightarrow \frac{1}{(2-1)(2+1)} = \frac{1}{2} \end{array} \right)$