

<p>الف) $\lim_{x \rightarrow 2^+} f(x) - 3 \rightarrow$ $f(2^+) - 3$ $f(2^+) = 2 \rightarrow 2 - 3 = -1$</p>	<p>ب) $\lim_{x \rightarrow 2^-} f(x) - 3 \rightarrow$ $f(2^-) - 3$ $f(2^-) = 1 \rightarrow 1 - 3 = -2$</p>	1
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<p>الف) $\lim_{x \rightarrow 2^+} f(x) - 3 \rightarrow f(2^+) - 3$ $[2^+] = 2 \rightarrow 2 - 3 = -1$</p>	<p>ب) $\lim_{x \rightarrow 2^-} f(x) - 3 \rightarrow f(2^-) - 3$ $[2^-] = 1 \rightarrow 1 - 3 = -2$</p>	2
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<p>الف) $\lim_{x \rightarrow 2^+} (f(x) - 3) \rightarrow$ $(2^+ - 3) = (-1) = -1$</p>	<p>ب) $\lim_{x \rightarrow 2^-} (f(x) - 3) \rightarrow$ $(2^- - 3) = (-2) = -2$</p>	3
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<p>الف) $\lim_{x \rightarrow 2^+} (f(x) - 3)$ $f(x) - 3 \rightarrow x = 2 = 2 - 3 = -1$ $\lim_{x \rightarrow 2^+} f(x) - 3 = -1 \rightarrow (-1) = -1$</p>	<p>ب) $\lim_{x \rightarrow 2^-} (f(x) - 3)$ $f(x) - 3 \rightarrow x = 2 = 2 - 3 = -1$ $\lim_{x \rightarrow 2^-} f(x) - 3 = -1 \rightarrow (-1) = -1$</p>	4
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<p>الف) $\lim_{x \rightarrow 2} \frac{f(x) - 3}{x - 2} \rightarrow$ $\frac{0}{0}$ $\frac{+}{0^+} = +\infty$ $\frac{-}{0^-} = -\infty$</p>	<p>ب) $\lim_{x \rightarrow 2} \frac{f(x) - 3}{(x - 2)^2} \rightarrow$ $\frac{0}{0}$ $\frac{+}{(0^+)^2} = \frac{+}{0^+} = +\infty$ $\frac{-}{(0^-)^2} = \frac{+}{0^+} = +\infty$</p>	5
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۱) $\lim_{x \rightarrow 2} \frac{x^2 - 3}{\sqrt{x} - 2}$ تکانه

$x \rightarrow 2^+ = \frac{9}{0^+} = +\infty$
 $x \rightarrow 2^- = \frac{9}{0^-} = -\infty$ مربوط

۲) $\lim_{x \rightarrow 2} \frac{x^2 - 3}{\sqrt{x^2 - 3x + 2}}$ تکانه

$x \rightarrow 2^+ = \frac{9}{\sqrt{0^+}} = \frac{9}{0^+} = +\infty$
 $x \rightarrow 2^- = \frac{9}{\sqrt{0^-}} = \frac{9}{0^-} = -\infty$ مربوط

۳) $\lim_{x \rightarrow 2} \frac{x^2 - 3}{x^2 - 7x + 12}$ تکانه

$x \rightarrow 2^+ = \frac{9}{-1 \times 0^+} = -\infty$
 $x \rightarrow 2^- = \frac{9}{-1 \times 0^-} = +\infty$ مربوط

۴) $\lim_{x \rightarrow 2} \frac{x^2 - 3}{(x-2)}$ تکانه

$x \rightarrow 2^+ = \frac{9}{0^+} = \frac{9}{0} = \text{تکانه}$
 $x \rightarrow 2^- = \frac{9}{0^-} = \frac{9}{-1} = -9$ مربوط

۵) $\lim_{x \rightarrow 2} [x^2] + [-2x]$ مربوط

$x \rightarrow 2^+ = [9^+] + [-4^-] = 9 - 4 = 5$
 $x \rightarrow 2^- = [9^-] + [-4^+] = 8 - 4 = 4$
مربوط $5 \neq 4$

۶) $\lim_{x \rightarrow 2} [-x^2] + [2x]$ مربوط

$x \rightarrow 2^+ = [-4^-] + [4^+] = -4 + 4 = 0$
 $x \rightarrow 2^- = [-4^+] + [4^-] = -4 + 4 = 0$
مربوط $0 = 0$

۷) $\lim_{x \rightarrow 2} [x^2 - f(x)] \rightarrow \frac{-b}{2a}$ مربوط

$x \rightarrow 2^+ \rightarrow [-f^+] = -4 \rightarrow$
مربوط $-f = 4$

۸) $\lim_{x \rightarrow 2} [4x - 9x^2]$ مربوط

$x \rightarrow 2^+ \rightarrow [9^-] = 8 \rightarrow$
مربوط $8 = 8$

۹) $\lim_{x \rightarrow 2} \frac{|x-2|}{x^2 - 3x + 2}$ مربوط

$x \rightarrow 2^+ = \frac{x-2}{(x-2)(x-1)} = \frac{1}{x-1} = \frac{1}{1} = 1$
 $x \rightarrow 2^- = \frac{2-x}{(x-2)(x-1)} = \frac{-1}{x-1} = \frac{-1}{1} = -1$
مربوط

۱۰) $\lim_{x \rightarrow 1} \frac{x - [x]}{x^2 - 1}$ مربوط

$x \rightarrow 1^+ = \frac{x-1}{(x-1)(x+1)} = \frac{1}{x+1} = \frac{1}{2}$
 $x \rightarrow 1^- = \frac{x}{(x-1)(x+1)} = \frac{1}{0^-} = -\infty$
مربوط