



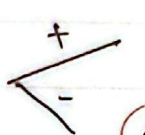
$\lim_{x \rightarrow 3} \frac{2x-3}{\sqrt{x-3}}$  $\frac{2x-3}{\sqrt{x-3}} = \frac{9}{0^+} = +\infty$ (جواب - 6)

$\frac{14-x}{\sqrt{x-3}} = \frac{2x-3}{\sqrt{0^-}} = 0$ (جواب)

$\lim_{x \rightarrow 3} \frac{2x-3}{\sqrt{x^2-12x+9}}$  $\frac{14-x}{\sqrt{0^+}} = +\infty$ (جواب)


$\frac{9}{\sqrt{0^-}} = 0$ (جواب)

$(x-3)(x-1) \Rightarrow \frac{1}{+ \quad - \quad +}$

$\lim_{x \rightarrow 3} \frac{2x-3}{x^2-7x+12}$  $\frac{9}{0^-} = -\infty$ (جواب - 7)

$\frac{9}{0^+} = +\infty$ (جواب)

$(x-3)(x-4) \Rightarrow \frac{1}{+ \quad - \quad +}$

$\lim_{x \rightarrow 3} \frac{2x-3}{[x-3]}$  $\frac{9}{[0^+]} = \frac{9}{0^+} = 0$ (جواب)

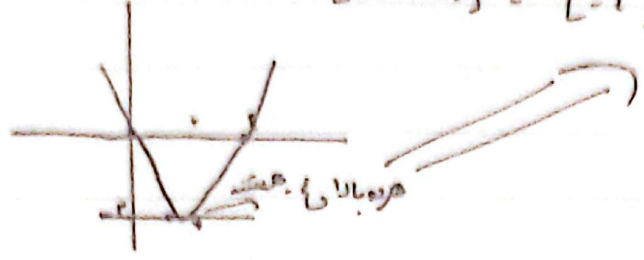
$\frac{9}{[0^-]} = \frac{9}{-0} = -9$ (جواب)

$\lim_{x \rightarrow 3} [3x] + [-2x] = \begin{cases} + & [9^+] + [-6^-] = 9-6=3 \text{ (جواب - 8)} \\ - & [9^-] + [-6^+] = 9-6=3 \end{cases}$

$\lim_{x \rightarrow 3} [-2x] + [3x] = \begin{cases} + & [2\varepsilon^-] + [1-\varepsilon^+] = 2\varepsilon^- - 1 + \varepsilon^+ = 1 \\ - & [2\varepsilon^+] + [1-\varepsilon^-] = 2\varepsilon^+ - 1 + \varepsilon^- = 1 \end{cases}$ (جواب 11)

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

$\begin{cases} + & [x(x-4)] = [2 \cdot (-2)] = -4 \\ - & [x(x-4)] = [2 \cdot (-2)] = -4 \end{cases}$



ب) $\lim_{x \rightarrow 2} [4x \cdot x^2]$

$\begin{cases} + & [9^+] = 9 \\ - & [9^-] = 9 \end{cases}$

$\lim_{x \rightarrow 2} [4x \cdot x^2] = 4 \cdot 2^2 = 16$

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

$\begin{cases} + & \frac{|x-2|}{(x-1)(x-2)} = \frac{x-2}{(x-1)(x-2)} = \frac{1}{x-1} = \frac{1}{1} = 1 \\ - & \frac{-x+2}{(x-1)(x-2)} = \frac{-x+2}{(x-1)(-x+2)} = \frac{1}{1-x} = \frac{1}{-1} = -1 \end{cases}$

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

$\begin{cases} + & \frac{1 - [1^+]}{1^+ - 1} = \frac{1-1}{0^+} = \frac{0}{0^+} = 0 \\ - & \frac{1 - [1^-]}{1^- - 1} = \frac{1-1}{0^-} = \frac{0}{0^-} = 0 \end{cases}$

$\frac{1 - [1^-]}{1^- - 1} = \frac{1-1}{0^+} = +\infty$

