

Subject: _____
 Year: _____ Month: _____ Day: _____

1 (الف) $\lim_{x \rightarrow 2^+} f(x-3) = 1-3 = -2$ (ب) $\lim_{x \rightarrow 2^-} f(x-3) = 1-3 = -2$ (۱)

3 (الف) $\lim_{x \rightarrow 2^+} f^2[x] - 3 = 1-3 = -2$ (ب) $\lim_{x \rightarrow 2^-} f^2[x] - 3 = 1-3 = -2$ (۲)

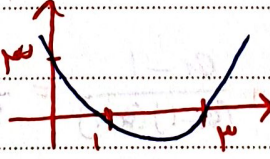
5 (الف) $\lim_{x \rightarrow 2^+} [f(x-3)] = -2$ (ب) $\lim_{x \rightarrow 2^-} [f(x-3)] = -2$ (۳)

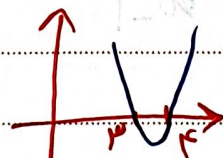
7 (الف) $[\lim_{x \rightarrow 2^+} f(x-3)] = -2$ (ب) $[\lim_{x \rightarrow 2^-} f(x-3)] = -2$ (۴)

9 (الف) $\lim_{x \rightarrow 3} \frac{f(x-3)}{x-3} \xrightarrow{3^+} \frac{9}{0^+} = +\infty$ (۵)

11 (ب) $\lim_{x \rightarrow 3} \frac{f(x-3)}{(x-3)^2} \xrightarrow{\text{درجه درجه}} \frac{9}{0^+} = +\infty$
 به خاطر توان دو، حاصل فردی و به بی نهایت.

13 (الف) $\lim_{x \rightarrow 3} \frac{f(x-3)}{\sqrt{x-3}} \xrightarrow{3^+} \frac{9}{\sqrt{0^+}} = +\infty$
 $\xrightarrow{3^-} \frac{9}{\sqrt{0^-}} = -\infty$ (۶)

17 (ب) $\lim_{x \rightarrow 3} \frac{f(x-3)}{\sqrt{x^2 - 4x + 3}}$

 $\xrightarrow{3^+} \frac{9}{\sqrt{0^+}} = +\infty$
 $\xrightarrow{3^-} \frac{9}{\sqrt{0^-}} = -\infty$ (۷)

20 (الف) $\lim_{x \rightarrow 3} \frac{f(x-3)}{x^2 - \sqrt{x+1}}$

 $\xrightarrow{3^+} \frac{9}{0^-} = -\infty$
 $\xrightarrow{3^-} \frac{9}{0^+} = +\infty$ (۸)

23 (ب) $\lim_{x \rightarrow 3} \frac{f(x-3)}{[x-3]}$
 $\xrightarrow{3^+} \frac{9}{[0^+]} = \text{ن.ت}$
 $\xrightarrow{3^-} \frac{9}{[0^-]} = -9$ (۹)

سببنا فدانا

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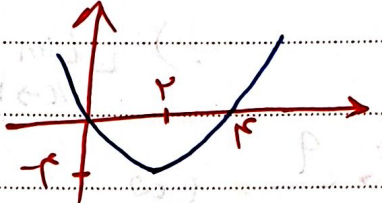
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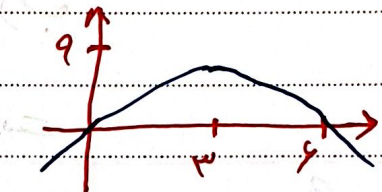
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الف) $\lim_{x \rightarrow 2} [3x] + [-2x] \xrightarrow{2^+} [3^+ + [-2^-]] = 2$ (A)
 $\xrightarrow{2^-} [3^-] + [-2^+] = 2$

ب) $\lim_{x \rightarrow -6} [-2x] + [2x] \xrightarrow{-6^+} [12^-] + [-12^+] = 0$ (5)
 $\xrightarrow{-6^-} [2x^+] + [-12^-] = 0$

الف) $\lim_{x \rightarrow 2} [x^2 - 2x] \Rightarrow$  $\lim_{x \rightarrow 2} [x^2 - 2x] = 0$ (9)

ب) $\lim_{x \rightarrow 3} [9x - x^2] \Rightarrow$  $\lim_{x \rightarrow 3} [9x - x^2] = 0$ (5)

الف) $\lim_{x \rightarrow 2} \frac{|x-2|}{x^2 - 3x + 2} = \frac{0}{0}$ مبهم \Rightarrow $\frac{|x-2|}{(x-1)(x-2)} \xrightarrow{2^+} \frac{1}{2-1} = 1$ (1)
 $\xrightarrow{2^-} \frac{-1}{2-1} = -1$

ب) $\lim_{x \rightarrow 1} \frac{x - [x]}{x^2 - 1} = \frac{0}{0}$ مبهم \Rightarrow $\frac{x-1}{(x-1)(x+1)} = \frac{1}{x+1} = \frac{1}{2}$ (5)
 $\frac{x}{x^2-1} = \frac{1}{0^-} = -\infty$
