

۱۹، ۱۷۵

عسل طاهر

$$f(x) \quad Df(x) = [-2, 2]$$

← سوال (۲)

$$f\left(\frac{3x+2}{5}\right) \rightarrow -2 \leq \frac{3x+2}{5} \leq 2$$

$$\rightarrow -10 \leq 3x+2 \leq 10 \rightarrow -12 \leq 3x \leq 18$$

$$\rightarrow -4 \leq x \leq 6 \quad \checkmark$$

$$f(3x-2) \quad D[-2, 3]$$

← سوال (۲)

$$\begin{cases} 3(-2)-2 = -8 \Rightarrow [-8, 7] \\ 3(3)-2 = 7 \end{cases}$$

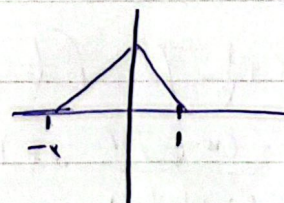
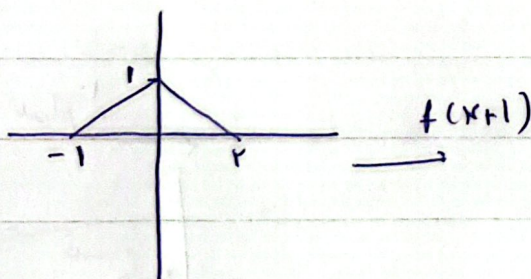
$$f(x) = \left(\frac{3x+1}{2}\right) \quad Df = [-1, 3] \rightarrow [-1, 2]$$

← سوال (۱۷۵)

$$f(2-\omega x) \rightarrow -1 \leq 2-\omega x \leq 2$$

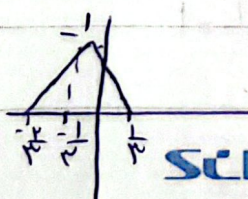
$$\rightarrow -3 \leq -\omega x \leq 0 \rightarrow -\frac{3}{\omega} \leq x \leq 0$$

$$\rightarrow Df = \left[-\frac{3}{\omega}, 0\right]$$

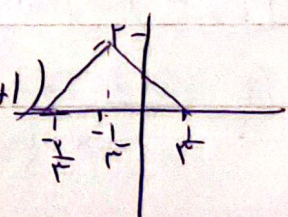


← سوال (۲)

$$f(3x+1)$$

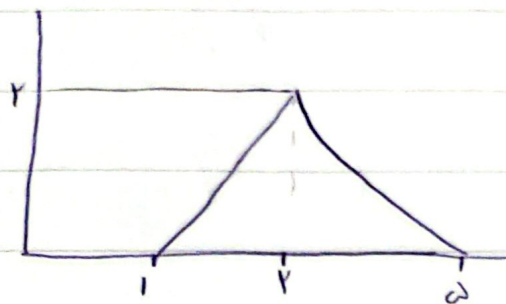
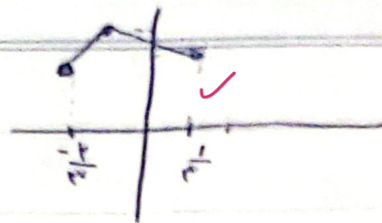


$$2f(3x+1)$$

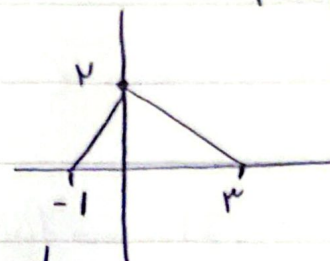


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$$\rightarrow \varphi(x_{N+1}) + \mu$$



$$f(x+\mu)$$



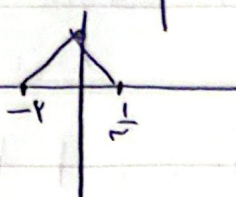
سوال ۲

(۲)

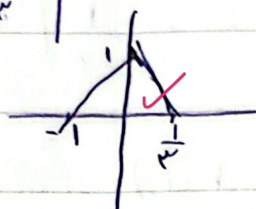
$$f(x_{N+1})$$



$$f(-x_{N+1})$$



$$f(x_{N+1})$$



سوال ۲

سوال ۲

(۲)

$$y = a(x-\varepsilon)^2 + \mu \xrightarrow{a = \frac{1}{\mu}} -\frac{1}{\mu}(x-\varepsilon)^2 + \mu$$

$$\rightarrow Q = (x-\varepsilon)^2 \rightarrow x-\varepsilon \rightarrow -\mu \rightarrow \boxed{x = \sqrt{\mu}}$$

$$\mu x + \mu = 1 \rightarrow x = \frac{1}{\mu}$$

$$1 - \mu(\varepsilon) = -\mu$$

$$\rightarrow \alpha B = \left(\frac{1}{\mu} \right) \quad (۲)$$

$$P_f = [a, \varepsilon] \quad y = f(x-1) + g(x+1)$$

$$(a+1, \varepsilon)$$

$$[-1, b-1] \quad (۲)$$

$$P_g = [-1, b]$$

$$-1 \leq x+1 \leq b \rightarrow -2 \leq x \leq b-1$$

$$\Rightarrow b-1 = -2 \rightarrow b = -1$$

$$a+1 = -2 \rightarrow a = -3$$

$$a-b = -3 - (-1) = -2$$

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$$y_1 = f\left(\frac{x}{2} + 1\right)$$

← سوال (۲)

$$Df = \left[-\infty, 0\right] \rightarrow \left\{ \begin{array}{l} -\frac{x}{2} + 1 = -\frac{1}{2} \\ \frac{x}{2} + 1 = \frac{1}{2} \end{array} \right\} \rightarrow D = \left[-\frac{1}{2}, \frac{1}{2}\right] \checkmark$$

$$Rf = [-1, 2] \rightarrow [-2, 1] \xrightarrow{-2} [-\infty, 1] \rightarrow [0, \infty] \rightarrow [0, \sqrt{2}] \checkmark$$

$$f(x-2)+1 \rightarrow \left| \frac{(x-2)+1}{2(x-2)+1} \right| + 1$$

← سوال (۲)

$$\rightarrow \left| \frac{x-1}{2x-3} \right| + 1 \rightarrow \left| \frac{x-1}{2x-3} \right| < -x-1$$

این باید بزرگتر از صفر باشد

$$\rightarrow -x-1 > 0 \rightarrow x < -1 \quad (1)$$

از صفر باشد

این عددها در قدر مطلق منفی و موج هم میگیرند که مثبت است

$$x+1 + \frac{x-1}{2x-3} < 0 \rightarrow \frac{(x+1)(2x-3) + (x-1)}{2x-3} < 0$$

$$\rightarrow 2x^2 - 5 + 2(x^2 - 2) \rightarrow \frac{2(x^2 - 2)}{2x-3} < 0$$

$$\textcircled{2} \rightarrow \frac{-\sqrt{2}}{-} + \frac{\sqrt{2}}{+} + \frac{\frac{3}{2}}{-} + \rightarrow \textcircled{1} \cap \textcircled{2} \rightarrow (-\infty, -\sqrt{2}) \checkmark$$