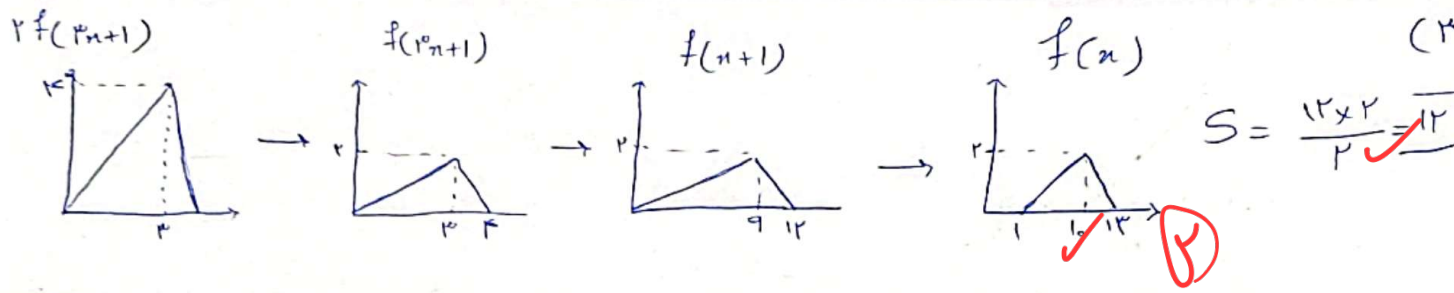


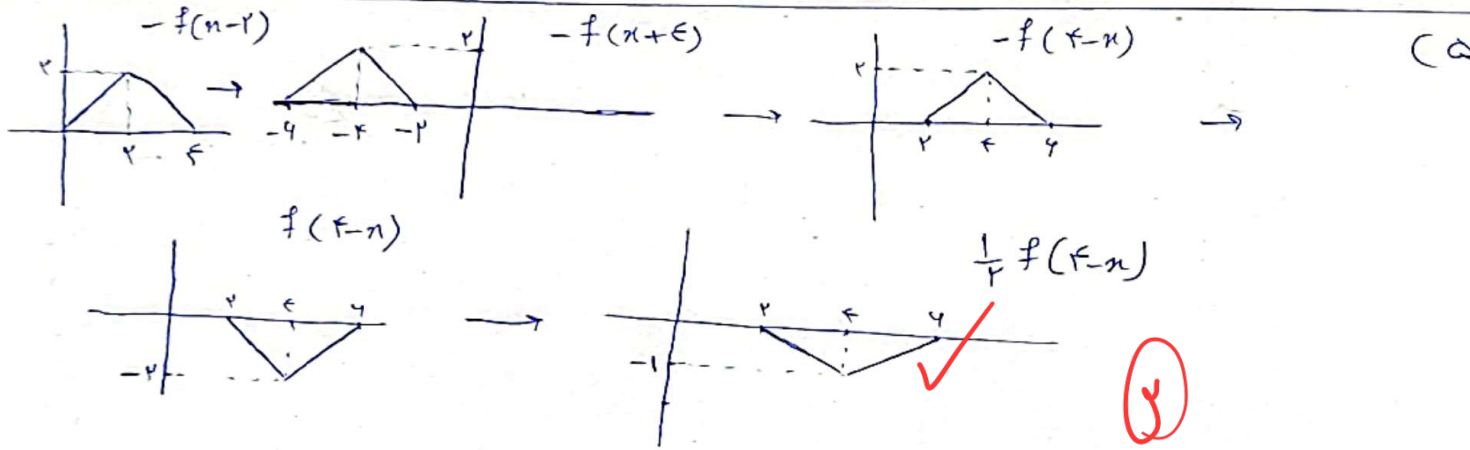
دوازدهم خرداد ۱۳۹۸

الف) $-1 < x-2 < 2 \rightarrow -2 < x < 4 \rightarrow -\frac{2}{3} < x < \frac{4}{3} \rightarrow D_{f(x-2)} = [-\frac{2}{3}, \frac{4}{3}]$
 ب) $-1 < x < 2 \rightarrow -1 < x-2 < 4 \rightarrow -1 < x-2 < 4 \rightarrow D_{f(x)} = [-1, 2]$
 $D_f = [-1, 2]$

$y = x + \sqrt{x-2} \rightarrow y = x-2 + \sqrt{x-2} \xrightarrow{u=\sqrt{x-2}} x = y-2 + \sqrt{y-2} \xrightarrow{u=y} y = y-2 + \sqrt{y-2} \rightarrow \sqrt{y-2} = 2 \rightarrow y-2 = 4 \rightarrow y = 6$



$f(x) = -x$
 $x_n - 1 = a + f(\frac{x-a}{r}) \rightarrow f(\frac{x-a}{r}) = \frac{rx-1-a}{r}$
 $\begin{cases} \frac{x-a}{r} = 2 \rightarrow x-a = 2r \\ \frac{rx-1-a}{r} = -1 \rightarrow rx-1-a = -r \end{cases} \rightarrow \begin{cases} -x+a = -2 \\ rx-a = r \end{cases} \rightarrow \begin{matrix} x = -2 \\ a = -4 \end{matrix}$



$-(x+2) f(x-1) \geq 0$
 $\begin{cases} f(-1) = 0 \rightarrow x-1 = -1 \rightarrow x = 0 \\ f(2) = 0 \rightarrow x-1 = 2 \rightarrow x = 3 \\ f(5) = 0 \rightarrow x-1 = 5 \rightarrow x = 6 \end{cases}$

	-2	0	1	2	
$-(x+2)$	+	0	-	-	-
$f(x-1)$	-	-	0	+	-
	-	0	+	0	-

$D_f = [-2, 0] \cup [1, 2]$

$$f(x) = |2x-3|+1 \xrightarrow{\text{واحد } k} |2(x+k)-3|+1 = |2x+2k-3|+1 \xrightarrow{\text{واحد } 3} |2x+2k-3|-4 \xrightarrow{\text{واحد } 3} |2x+2k-3|-1 \xrightarrow{\text{واحد } 3} |2x+2k-3|-4$$

$$\text{حل بر خور} \rightarrow x=0 \rightarrow f(0)=1$$

روی محور

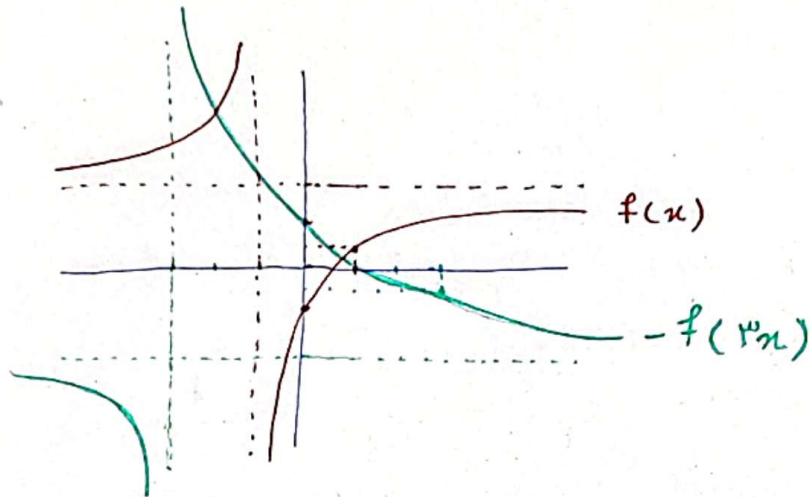
$$L \rightarrow g(0) = |2k-3|-4 = \epsilon \rightarrow |2k-3| = 1 \begin{cases} 2k-3=1 \rightarrow k = \frac{4}{2} \checkmark \\ 2k-3=-1 \rightarrow k = \frac{2}{2} \times \end{cases}$$

1,0

$$|2k-3| = 4 \rightarrow k = \frac{4}{2} = 2 \checkmark$$

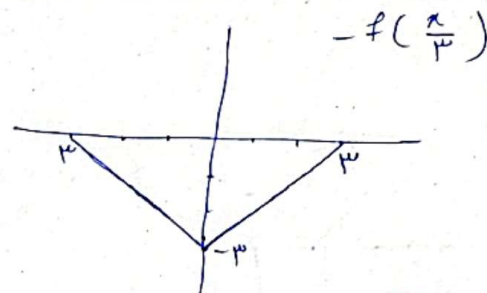
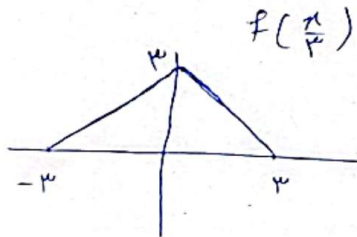
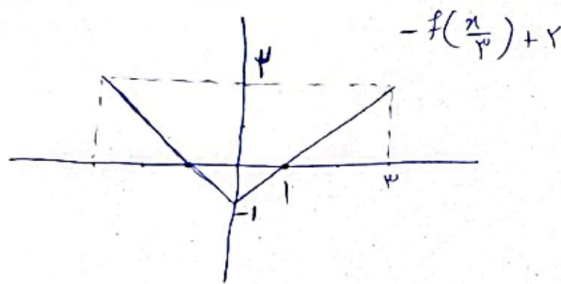
$$f(x) = \frac{2x-1}{x+1} \xrightarrow{\text{قرینه}} \frac{1-2x}{x+1} \xrightarrow{\text{برابر کردن مولد}} \frac{1-\frac{2}{3}x}{\frac{x}{3}+1}$$

(1)

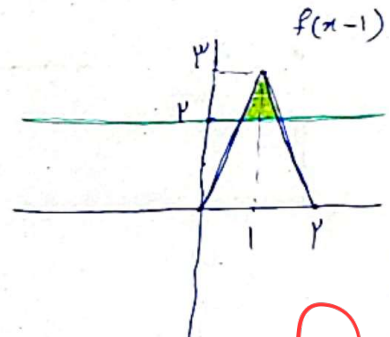
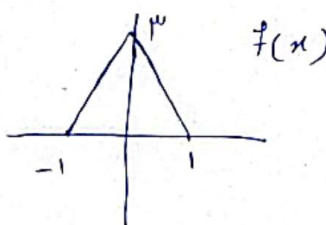


برای دانستن اینکه نقطه برخورد باید
واحد به بالا انتقال دهیم

2



(9)



$$\begin{cases} 3x = 2 \rightarrow x = \frac{2}{3} \\ -3x + 4 = 2 \rightarrow x = \frac{2}{3} \end{cases}$$

$$\rightarrow \frac{2}{3} - \frac{2}{3} = \frac{2}{3} \rightarrow S = \frac{\frac{2}{3} \times 1}{2} = \frac{1}{3} \checkmark$$

2

$$f(x) = |x-a|-2$$

$$S = \frac{(a-2)(a-2)}{2} + \frac{(a+2-(a-2)) \times 2}{2} = \frac{a}{2} \rightarrow (10)$$

$$\frac{(a-2)(a-2)}{2} = \frac{1}{2} \rightarrow (a-2)^2 = 1 \rightarrow$$

$$\begin{cases} a-2=1 \rightarrow a=3 \checkmark \\ a-2=-1 \rightarrow a=1 \end{cases}$$

$$f\left(\frac{1}{3}\right) = \left|\frac{1}{3}-3\right|-2 = \frac{8}{3}-2 = \frac{2}{3} \checkmark$$

2