

$$Df(x) = [-1, 1] \rightarrow Df(x-1) = ?$$

(الف)

$$-1 \leq x \leq 1$$

$$\rightarrow -1 \leq x-1 \leq 1$$

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

$$\rightarrow D_{f(x-1)} = \left[-\frac{1}{2}, \frac{1}{2}\right]$$

$$Df(x-1) = [-1, 1] \rightarrow$$

$$-1 \leq x \leq 1$$

$$-1 \leq x-1 \leq 1$$

$$-1 \leq x-1 \leq 1$$

$$\rightarrow Df(x) = ? \rightarrow Df(x) = [-1, 1]$$

$$-1 \leq x \leq 1$$

$$y f(x) = x + \sqrt{x-1}$$

$$\xrightarrow{\text{نقطة 1}} f(x) = x-1 + \sqrt{x-1-1}$$

$$f(x-1) = x-1 + \sqrt{x-1-1}$$

$$\xrightarrow{\text{نقطة 2}} y = x-1$$

$$+ f(x-1) = -1 + x + \sqrt{x-1}$$

$$\xrightarrow{\text{نقطة 3}} y = x-1$$

$$+ f(x-1) = x$$

$$x-1 + \sqrt{x-1-1} = x$$

$$+ \sqrt{x-1} = \sqrt{x-1} \rightarrow x=1$$

$$y=1$$

$$\rightarrow x = y + 1 + \sqrt{y-1}$$

$$x = y + 1$$

$$\sqrt{x-1} = \sqrt{y-1}$$

$$x-1 = y-1$$

$$x = y$$

$$\rightarrow x = y + 1 + \sqrt{y-1}$$

$$g(x) = f(x+1)$$

$$\rightarrow R = [0, 4]$$

$$\xrightarrow{\frac{1}{2} g(x)} R = [0, 1]$$

$$1,100$$

$$D(g(x)) \rightarrow \begin{matrix} 0 \leq x \leq 4 \\ 0 \leq x+1 \leq 5 \\ 1 \leq x+1 \leq 5 \end{matrix}$$

$$\rightarrow \text{مساحة} = \frac{(4) \times (1)}{2} = 2$$

$$S = 12$$

$$A(1, -1)$$

$$\rightarrow \frac{a-a}{r} = 1 \rightarrow x-a=1$$

$$x=a+1$$

$$a + r f\left(\frac{x-a}{r}\right)$$

$$+ f(-1)$$

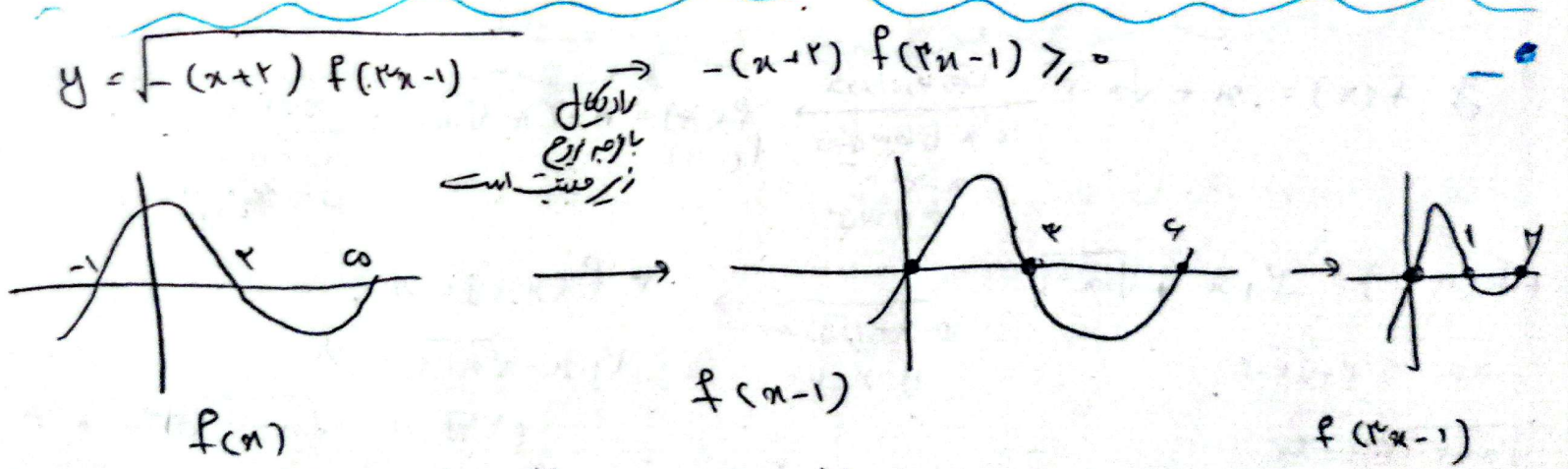
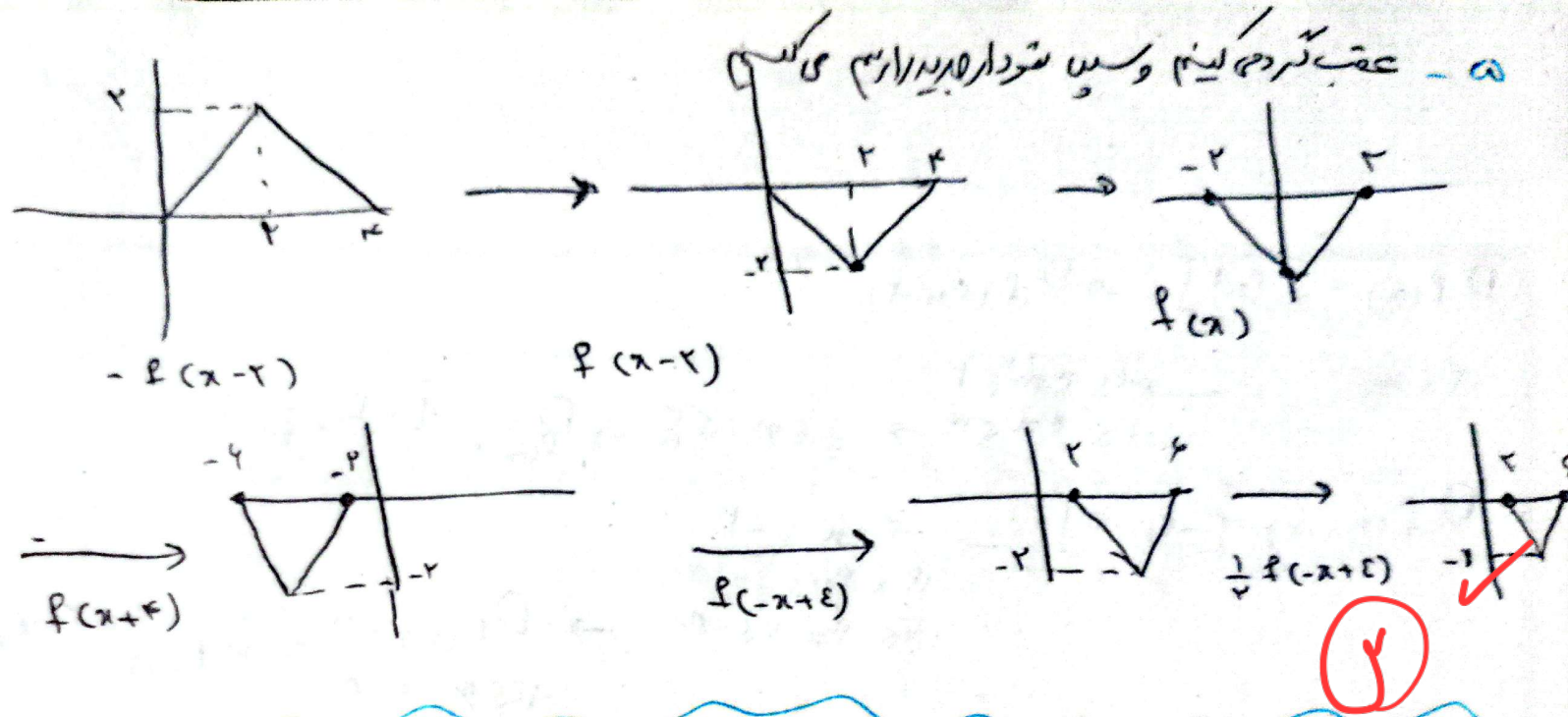
$$A'(a+1, a-1)$$

$$g = rx - 1 \rightarrow a-1 = r(a+1) - 1$$

$$\xrightarrow{\text{نقطة 4}} a-1 = ra$$

$$-1 = a$$

$$y=1$$

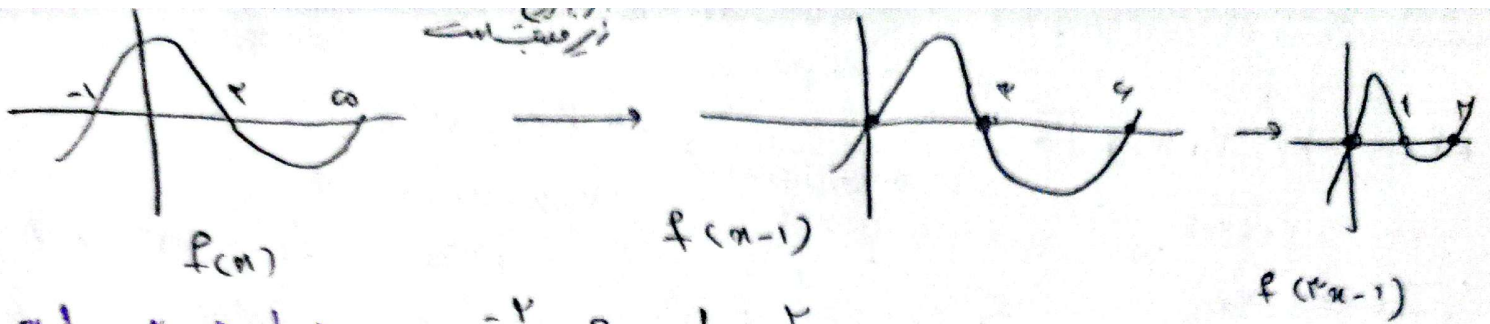


x	-2	0	1	2
$x+2$	$-$	$+$	$+$	$+$
$f(2x-1)$	$-$	$-$	$+$	$-$
زیر را داریم	$-$	$+$	$-$	$-$

-2	0	1	2
$+$	$-$	$+$	$-$

$\rightarrow D_g = [-2, 0] \cup [1, 2]$

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

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

$\rightarrow D_g = [-2, 0] \cup [6, 2]$

k و k به سبب $x+k$ به جای x می آید
 k و k به سبب $x+k$ به جای x می آید (1-3)

$$f(x) = |2(x+k) - 2| - 2$$

$$|2x + 2k - 2| - 2 = |2x - 2| + 1$$

عمل به صورت درستی
 معبر و است
 نه $x=0$

$$|2k - 2| - 2 = 1$$

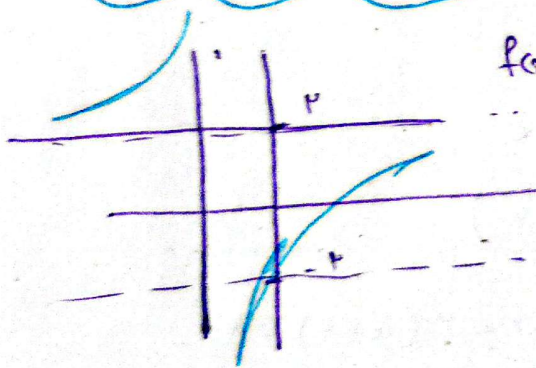
$$|2k - 2| = 3$$

$$2k - 2 = 3 \quad 2k - 2 = -3$$

$$2k = 5 \quad 2k = -1$$

$$k = \frac{5}{2} = 2.5 \quad k = -\frac{1}{2} = -0.5$$

(2)



$f(x) = \frac{2x-1}{x+1}$ $\xrightarrow{\text{قرینه‌بندی به محور طولی}} -\frac{(2x-1)}{x+1}$

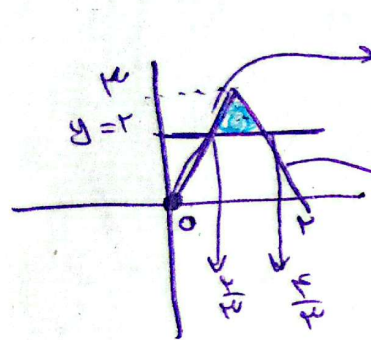
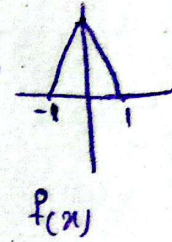
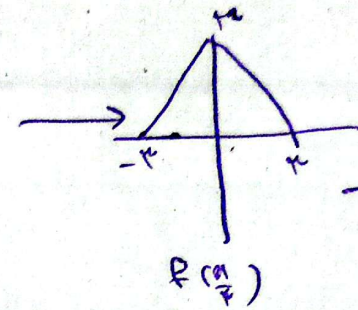
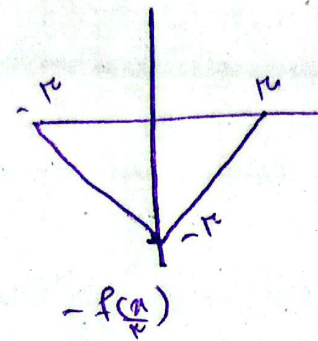
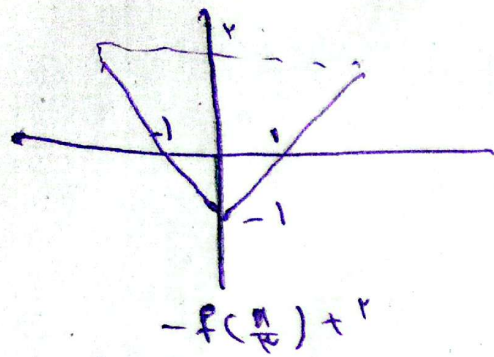
$-\frac{(\frac{2}{3}x-1)}{\frac{x}{3}+1}$ $\leftarrow$ $\frac{2}{3}$ به جای x می آید

$\downarrow$ $-\frac{\frac{2}{3}x+1}{\frac{x}{3}+1} = \frac{x-2}{x+3}$

به دلیل اینکه انتقال محور طولی
 بین تابع و افقی آن نیز گزیده شد $f(x)$ و $f(x)$

$\rightarrow k = 3$

(2)



$(0,0) (1,r) \quad y = ax + b = rx$

$a = \frac{\Delta y}{\Delta x} = r$

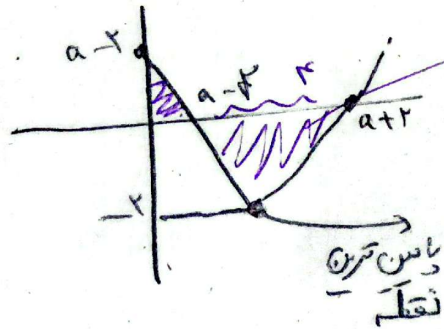
$rx = r$
 $x = \frac{r}{r}$

$(1,r) (r,0) \rightarrow y = -rx + r$

$-rx + r = r$
 $-rx = -r$
 $x = \frac{r}{r}$

$b = \left(\frac{r}{r} - \frac{r}{r}\right)1 = \frac{1}{r}$

✓



$\frac{f(x)}{x} + \frac{(a-r)(a-r)}{r} = r, 0$

$\frac{1}{x} = \frac{a^2 - fa + r}{r}$

$a^2 - fa + r = 1$

$a^2 - fa + r = 1$

$a^2 - fa + r = 1$

$(a-1)(a-r) = 0$

$a=1$

$a=1$

$a-r=0$

$a=r$

$a=r$

$a=r, 0$

$f\left(\frac{1}{r}\right) = \left|\frac{1}{r} - r\right| - r$

$= \left|\frac{1}{r} - r\right| - r = r - \frac{1}{r} - r = -\frac{1}{r}$

✓

دقيق