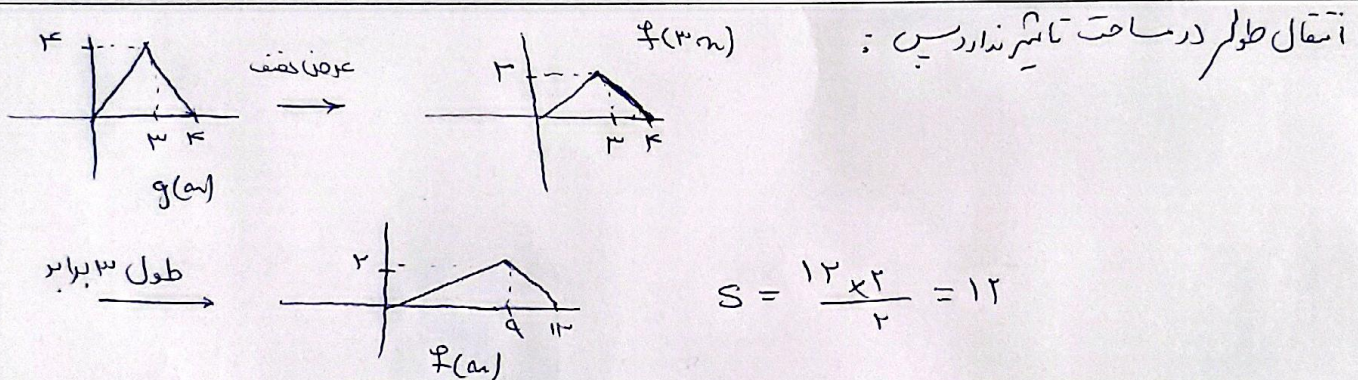


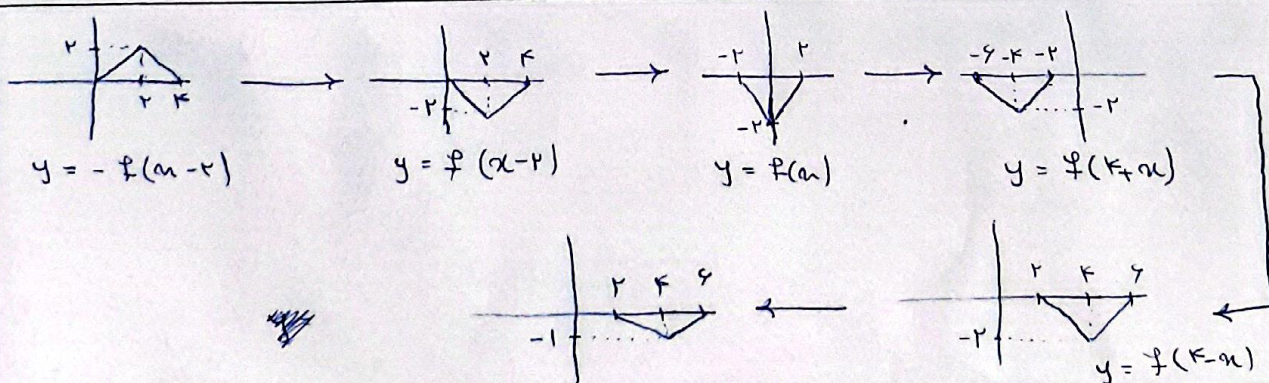
الف) $-4 \leq 3x - 2 \leq 2 \Rightarrow -2 \leq 3x \leq 4 \Rightarrow -\frac{2}{3} \leq x \leq \frac{4}{3}$
 $\Rightarrow D_g = \left[-\frac{2}{3}, \frac{4}{3}\right]$

ب) $-4 \leq x \leq -2 \Rightarrow -12 \leq 3x \leq -6 \Rightarrow -14 \leq 3x - 2 \leq -8$
 $\Rightarrow D_g = [-14, -8]$

$f(x) = x + \sqrt{x-2}$ $\xrightarrow{\text{انتقال طولی}}$ $f(x) = x-2 + \sqrt{x-2}$ قرینه نسبت به $y=x$ همان وارون کردن است
 $x = y - 2 + \sqrt{y-2}$
 $y = y - 2 + \sqrt{y-2} \Rightarrow \sqrt{y-2} = 2 \Rightarrow y-2 = 4 \Rightarrow y = 6$



$-3 = f(2) \quad \frac{x-a}{2} = 2 \Rightarrow x-a=4 \Rightarrow x=a+4$
 $a+2f(2) = a-6 \Rightarrow A' = (a+4, a-6)$
 $a-6 = 2a+1-1 \Rightarrow a = -6$



$$-(x+r) \neq (r^2m-1) \Rightarrow 0$$

$$f(m) = 0 \Rightarrow x = \omega, r, -1$$

$$f(r^2m-1) = 0 \Rightarrow \begin{cases} r^2m-1 = \omega \Rightarrow x = r \\ r^2m-1 = r \Rightarrow x = 1 \\ r^2m-1 = -1 \Rightarrow x = 0 \end{cases}$$

$$x = -r$$

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

$$\Rightarrow D_y = [-r, 0] \cup [1, r]$$

$$g(m) = |r(x+k) - w| + 1 - w \Rightarrow g(x) = |rx + rk - w| + 1 - w = |rx - w| + 1$$

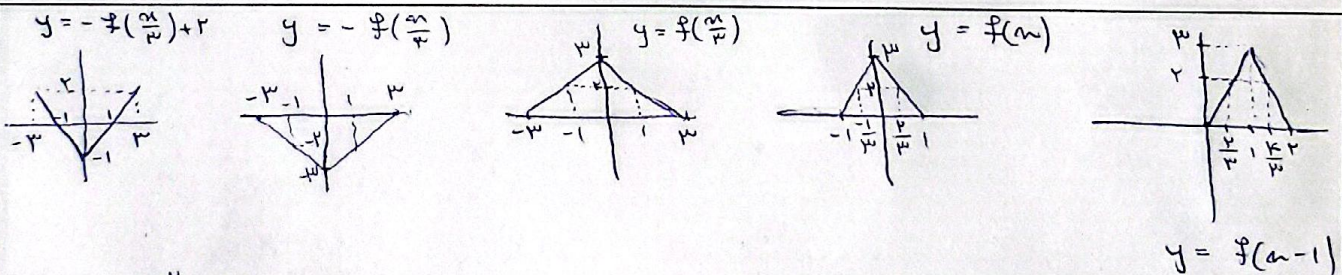
$$x=0 \Rightarrow |rk - w| - r = |-w| + 1$$

$$\Rightarrow \begin{cases} rk - w = r \Rightarrow rk = r + w \Rightarrow k = r + \frac{w}{r} & \overline{00} \\ rk - w = -r \Rightarrow rk = -r - w \Rightarrow k = \frac{-r-w}{r} & \overline{00E} \end{cases}$$

$$g(m) = \frac{1 - \frac{w}{r}}{\frac{x}{r} + 1} + k = \frac{rx - 1}{x + 1} \Rightarrow k = \frac{rx - 1}{x + 1} + \frac{-w + rx(x+1)}{x + r(x+1)}$$

$$\Rightarrow \frac{rx^2 - x + rx - w - wx + rx^2 - w + rx}{(x+1)(x+r)} \Rightarrow \frac{rx^2 + rx - w}{(x+1)(x+r)} = k \Rightarrow kx^2 + rx + wk = rx^2 + \lambda$$

$$\Rightarrow kx^2 - rx + wk - wx + rx - w = 0 \Rightarrow kx^2 - rx + wk - wx - w = 0 \Rightarrow kx^2 - rx + wk - wx - w = 0 \Rightarrow kx^2 - rx + wk - wx - w = 0$$



$$S = \frac{1 \times \frac{r}{r}}{r} = \frac{1}{r}$$

$$S_1 + S_r = \frac{a}{r} \Rightarrow \frac{(a-r)r}{r} + \frac{rx-r}{r} = \frac{a}{r} \Rightarrow (a-r)r = 1r \Rightarrow a-r = \sqrt{1r}$$

$$\Rightarrow a = r + \sqrt{1r} \quad f\left(\frac{1}{r + \sqrt{1r}}\right) = \left|\frac{1}{t} - t\right| - r \Rightarrow \left|\frac{1-t^r}{t}\right| - r \Rightarrow \left|\frac{1 - (r + 1r + r\sqrt{1r})}{r + \sqrt{1r}}\right| - r$$

$$\Rightarrow \frac{r_0 + r\sqrt{1r}}{r + \sqrt{1r}} - r \Rightarrow \frac{1r - r\sqrt{1r}}{r + \sqrt{1r}}$$