

$$-4 \leq 3x-2 \leq 2 \rightarrow -\frac{2}{3} \leq x \leq \frac{4}{3}$$

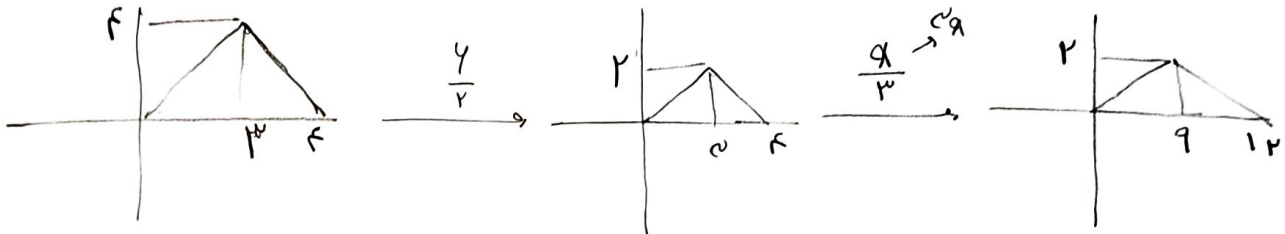
(الف)

$$-4 \leq 3x-2 \leq -2 \rightarrow -\frac{2}{3} \leq x \leq 0$$

(ب)

$$L(x) = x + \sqrt{x-2} \rightarrow L(x-2) = x-2 + \sqrt{x-2-2} \xrightarrow{y=x} y-2 + \sqrt{y-4} = x$$

$$\rightarrow y-2 + \sqrt{y-4} = y \rightarrow y-4 = 4 \rightarrow y=8 \rightarrow y=x \rightarrow (8,8)$$



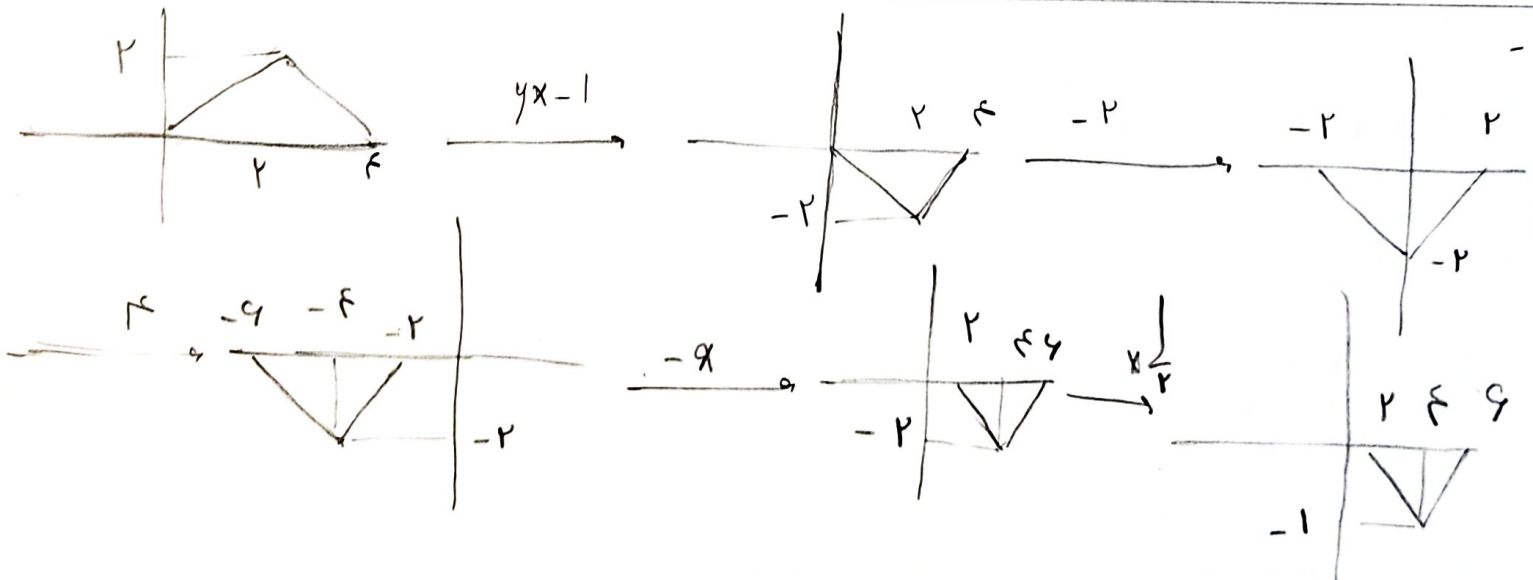
$$\frac{12 \times 2}{2} = 12$$

حرکت چپ و راست افقی مساحت، تغییر نمی دهد.

$$L\left(\frac{x-a}{r}\right) = \frac{y-a}{r} \rightarrow L(a') = \frac{y-a-1}{r} = -2 \rightarrow y-a-1 = -2 \rightarrow y-a-2 = -2 \rightarrow y-a-2 = -2$$

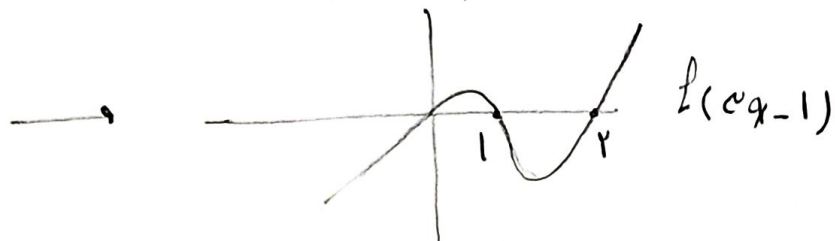
$$y-a-2 = -2 \rightarrow y = 2x-1 \rightarrow 2\left(\frac{x-a}{r}\right) - 1 = -2 \rightarrow x-a-1 = -2$$

$$x-a = 1, x-a-1 = -2 \rightarrow x=2, a=1$$



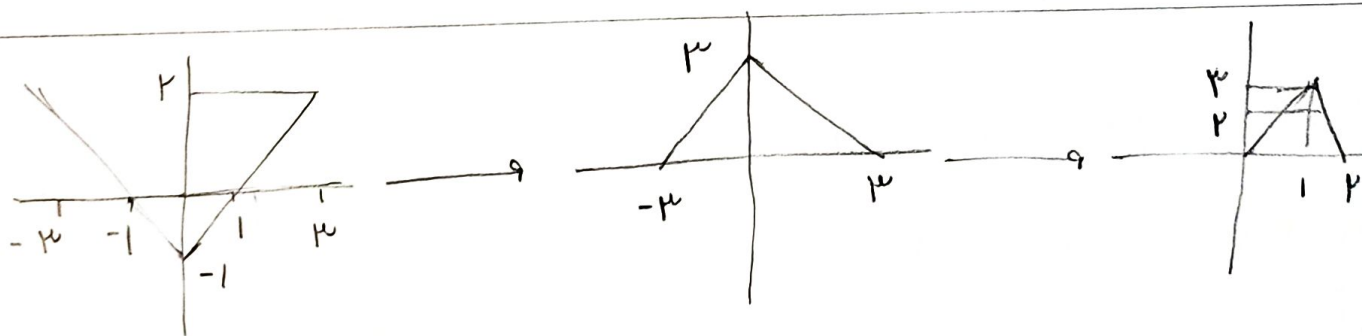
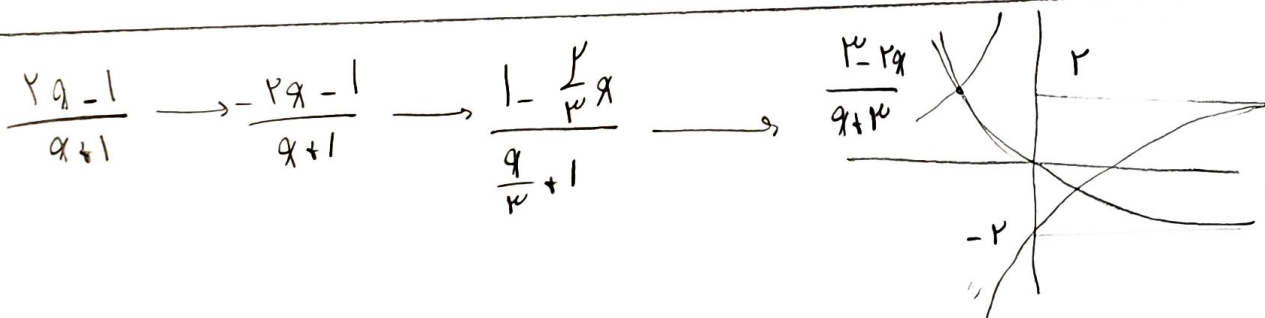
$$\sqrt{-(x+r)} f(x-1) \rightarrow -(x+r) f(x-1) \rightarrow (x+r) f(x-1) \leq 0$$

$$\begin{array}{cccc} -r & 0 & 1 & r \\ + & - & + & - & + \end{array} \rightarrow D_y = [-r, 0] \cup [1, r]$$



$$|r(x-k) + 1| \rightarrow |r(x+k) - r| + 1 \rightarrow |r(x+k) - r| - r = g(x)$$

$$x \rightarrow |rk - r| = r \rightarrow rk = r \rightarrow k = 1, \infty, rk = -r \rightarrow k = -1, \infty$$



$$\frac{rk}{r} = |x| > \frac{r}{r} \rightarrow \frac{rk}{r} > \frac{r}{r}$$

$$S_1 = \frac{(a-r)(a-r)}{r} = \frac{a^2 - 2ar + r^2}{r}$$

$$S_2 = \frac{1}{r} = r \quad \frac{a^2 - 2ar + r^2}{r} + r = \frac{a^2 - 2ar + r^2 + r^2}{r}$$

$$a^2 - 2ar + r^2 \rightarrow (a-r)^2 \rightarrow a \rightarrow \begin{matrix} \nearrow 1 \\ \searrow r \end{matrix}$$

$$\rightarrow L\left(\frac{v}{r}\right) = \left|\frac{1}{r} - r\right| = r - \frac{1}{r} = \frac{r^2 - 1}{r}$$

Gilman's
-1.