

الف) $f(x) \rightarrow D_f = [-\epsilon_0 + 2] \rightarrow -\epsilon_0 + 2 \leq x \leq 2$ $-\frac{2}{3} \leq x \leq \frac{4}{3}$

①

۱.۵

ب) $f(x-2) \rightarrow -1 \leq x-2 \leq -1 \rightarrow f(0) \rightarrow D_{f(x)} = [-1, 1]$
 $-1 \leq x \leq 1$ $-1 \leq 0 \leq -1$

②

۱

$x \rightarrow x-2 \rightarrow x-2 + \sqrt{x-2} = 0 \rightarrow$

داون کردن و قرینه نسبت به y

$x = x-2 + \sqrt{x-2}$

$\sqrt{x-2} < 2$

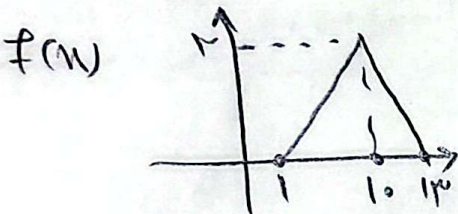
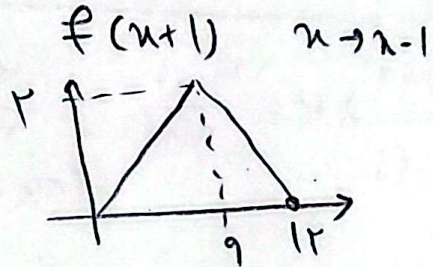
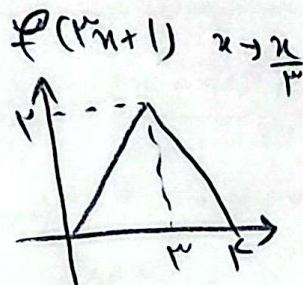
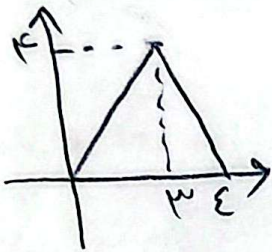
$x < 1 \rightarrow y < 1$

$A(a, 0) \rightarrow A'(a, 0) \rightarrow$ (نویسنده)

③

۲

$g(x) = 2 - f(x+1)$



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



④

۱.۵

$\frac{x-a}{y} = 2 \rightarrow x = 2y + a$

$a-4 = 2a+1-1$

$\rightarrow A'(2+a, a-3)$

$a = -4$

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

$2(\epsilon-0) - 1 = a-3$

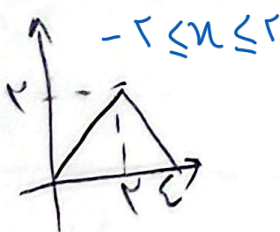
$\frac{y-a}{y} = -3 \rightarrow y < a-4$

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

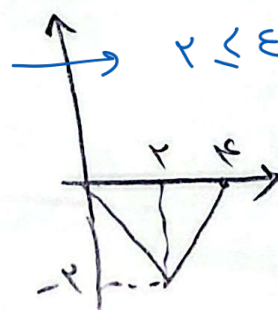
⑤

۱.۲۵

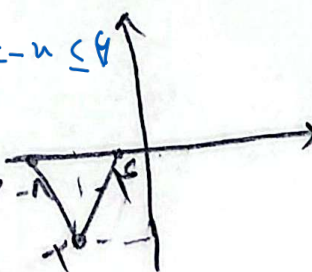
$g = -f(x+2)$



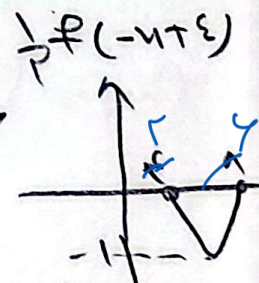
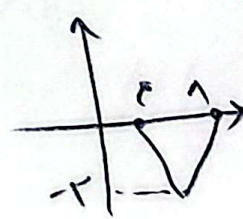
$f(x-2)$



$f(x+2)$



$f(-x+2)$



$$\begin{aligned} 3n-1 &= 0 \rightarrow n=1 \\ 3n-1 &= 2 \rightarrow n=1 \\ 3n-1 &= -1 \rightarrow n=0 \end{aligned}$$

$$\begin{array}{ccccccc} & -1 & & 0 & & 1 & & 2 \\ \hline & - & + & - & + & - & + & - \end{array}$$

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

-6 (2)

$$K \text{ با } x: x \rightarrow x+K$$

$$g \rightarrow g-3$$

$$|2(x+K)-3|+1-3=g(x) \rightarrow g(x)=|2x+2K-3|-2$$

(2)

$$f(x)=g(x) \rightarrow f(x)=g(x)=\varepsilon \rightarrow |2K-3|-2=\varepsilon$$

$$2K-3=6 \rightarrow K=\frac{9}{2}$$

$$2K-3=-6 \rightarrow K=-\frac{3}{2} \rightarrow \text{اگر } K \text{ منفی شود انتقال به راست صورت}$$

$$\frac{-2(\frac{x}{p})+1}{\frac{x}{p}+1}+K=\frac{2n-1}{n+1} \rightarrow \frac{-2x+3+Kx+3K}{x+3}=\frac{2n-1}{n+1}$$

-8 (2)

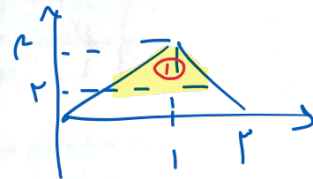
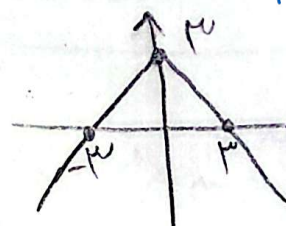
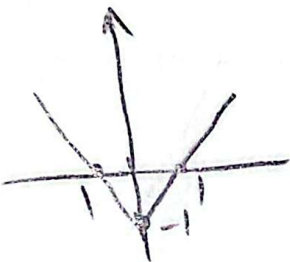
$$(K-2)(x+3+3K)(n+1)=(2n-1)(n+3) \rightarrow \text{رشته بندی معادله}$$

$$\rightarrow (K-2)x^2 + (6K-2)x + 4+3K=0 \rightarrow \begin{cases} \Delta=0 \rightarrow 36K^2-24K+4=0 \rightarrow 9K^2-6K+1=0 \rightarrow (3K-2)^2=0 \rightarrow K=\frac{2}{3} \\ \text{یا } (K-2)=0 \rightarrow K=2 \end{cases}$$

$$-f(\frac{x}{p})+2$$

$$f(\frac{x}{p})-2$$

$$f(\frac{x}{p})$$

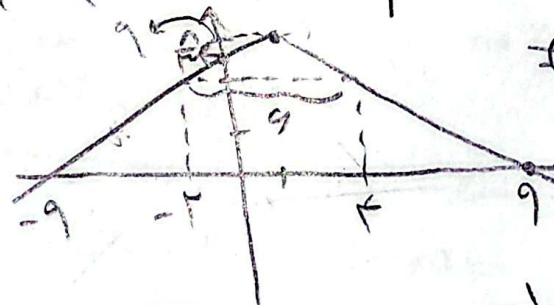
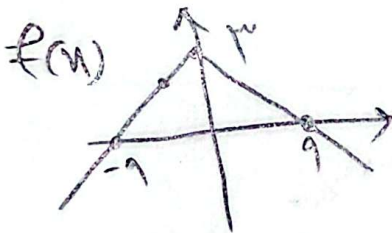


-9 (1)

$$\frac{h_1}{h_2} = \frac{1}{2} \rightarrow \frac{S_1}{S_2} = \frac{1}{4}$$

$$\frac{S_1}{S_2} = \frac{1}{4} \rightarrow S_1 = \frac{1}{4} S_2$$

$$f(n-1) = -|\frac{1}{p}(n-1)|+2$$



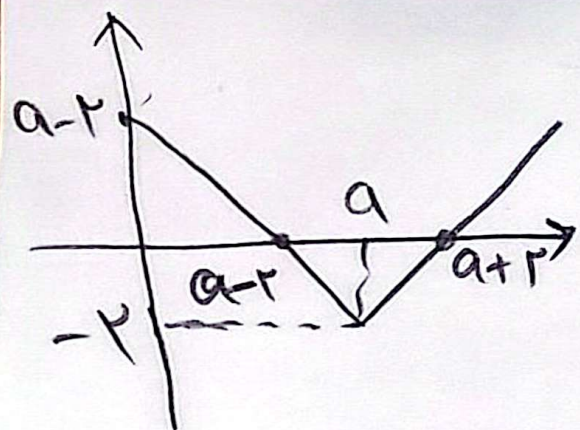
$$f(n) = -|\frac{1}{p}|+2$$

$$S = \frac{9 \times 1}{2} = 4.5$$

$$-\frac{1}{p}(n-1)+2=2 \rightarrow n=1$$

$$\frac{1}{p}(n-1)+2=2 \rightarrow n=1$$

نویسنده



$$\frac{(a-r)(a-r)}{r} + \frac{\epsilon x}{x} = \frac{q}{x}$$

$$a^2 - \epsilon a + \epsilon = 1$$

$$a^2 - \epsilon a + r = 0 \quad (a-r)(a-1) = 0 \quad \begin{matrix} \rightarrow a=r \rightarrow \checkmark \\ \rightarrow a=1 \rightarrow a-r=-1 \times \end{matrix}$$

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

نتیجه