

امتحان شف

$$Df = [\varepsilon, r] \Rightarrow Df(a-r)$$

(الف) ①

$$-\varepsilon < a < r \Rightarrow -\varepsilon < r-a < r \Rightarrow \boxed{-\frac{r}{2} < a < \frac{\varepsilon}{r}}$$

$$Df(a-r) = [-\varepsilon, r] \Rightarrow -\varepsilon < a < r \Rightarrow -1\varepsilon < r-a < r$$

(ب)

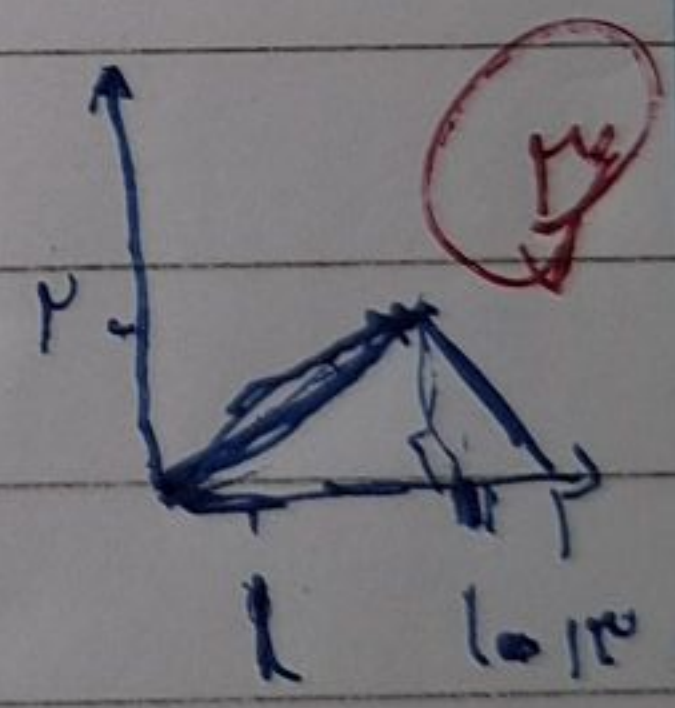
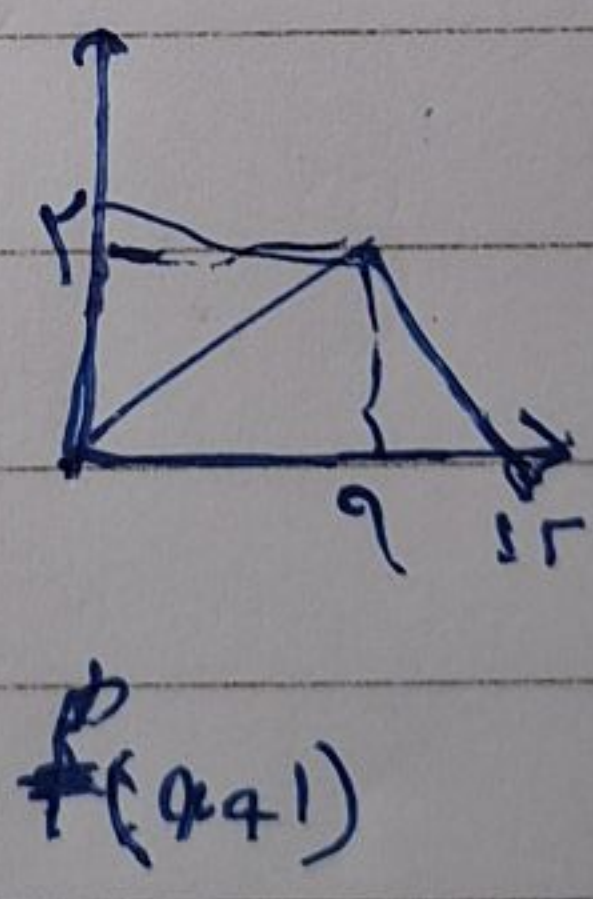
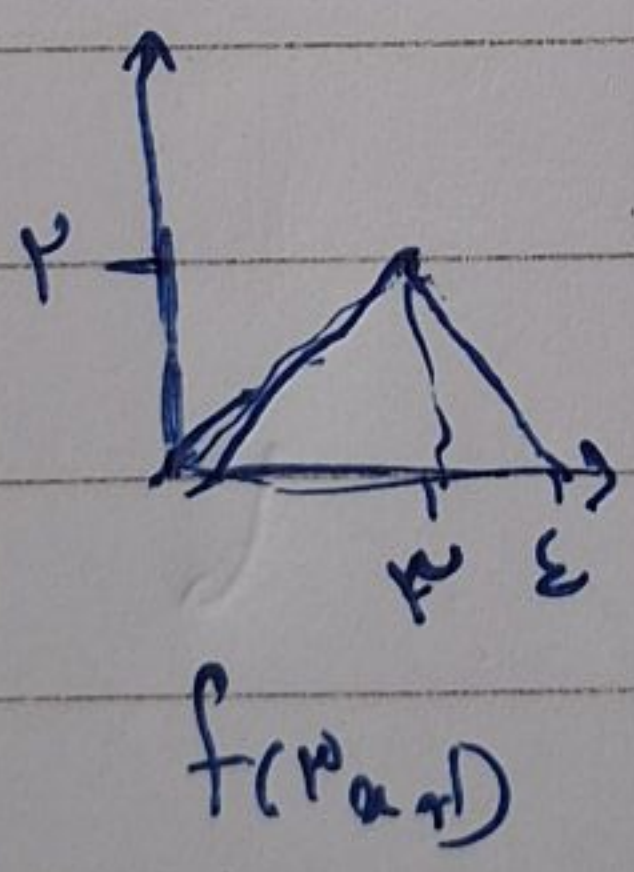
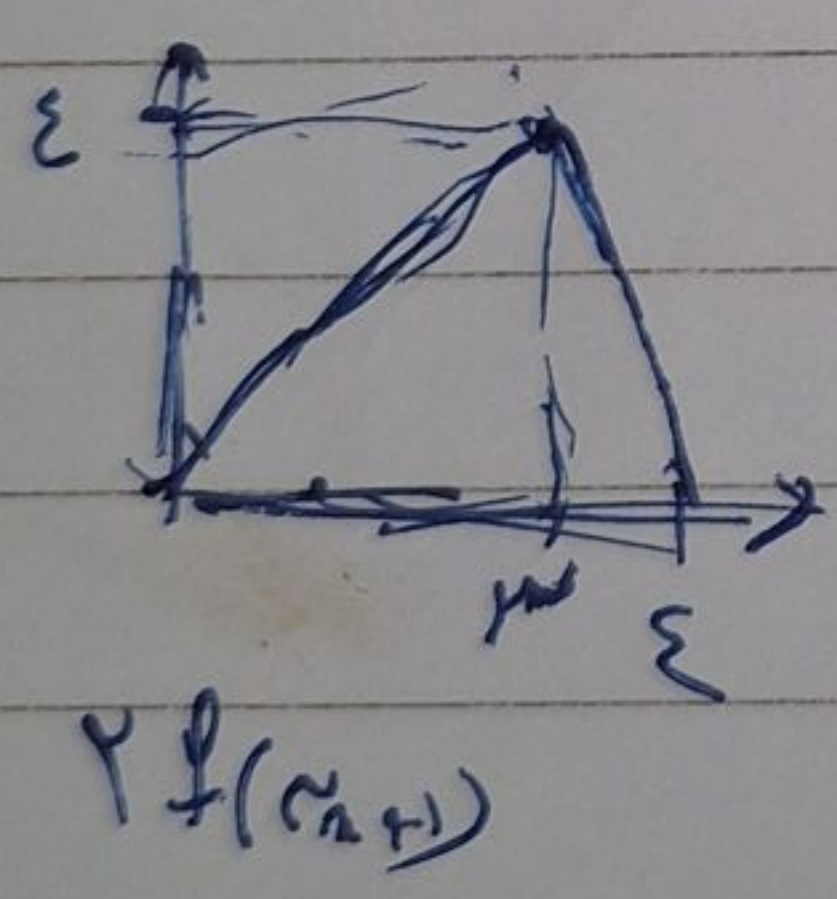
$$Df(a) = \boxed{[-1\varepsilon, -r]}$$

$$a = \sqrt{a-2} \quad \text{و امثال آن} \quad (a-2) + \sqrt{(a-2)-2} \quad (a-2) + \sqrt{a-2}$$

(ج) ②

قریبی به $y = x$ به معنای $y = x$ معنای $y = x$ در $x=0$ و $x=1$ اول و دوم قطع می کند

خود را به $y = x$ از نقطه $(1,1)$ قطع می کند $\rightarrow a < 1 \rightarrow (a-2) + \sqrt{a-2} = a$



$$S = \frac{r \times 12}{r} = 12$$

$$f(x) = r \quad y = a + r f\left(\frac{x-a}{r}\right) \rightarrow r-a = a + r f\left(\frac{x-a}{r}\right)$$

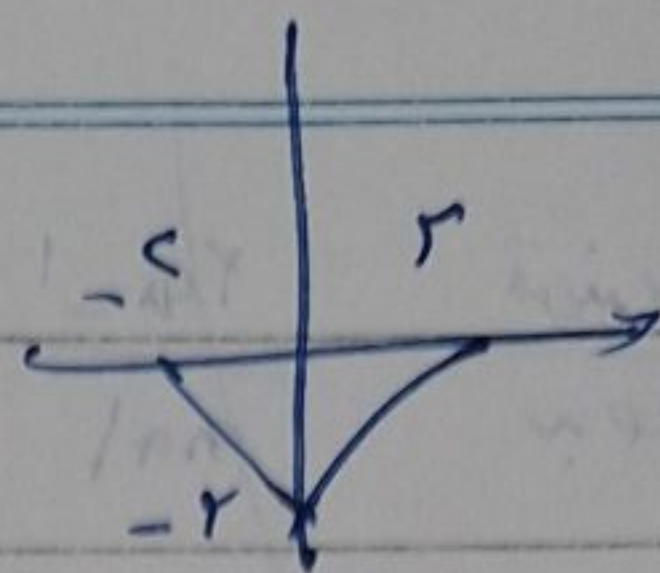
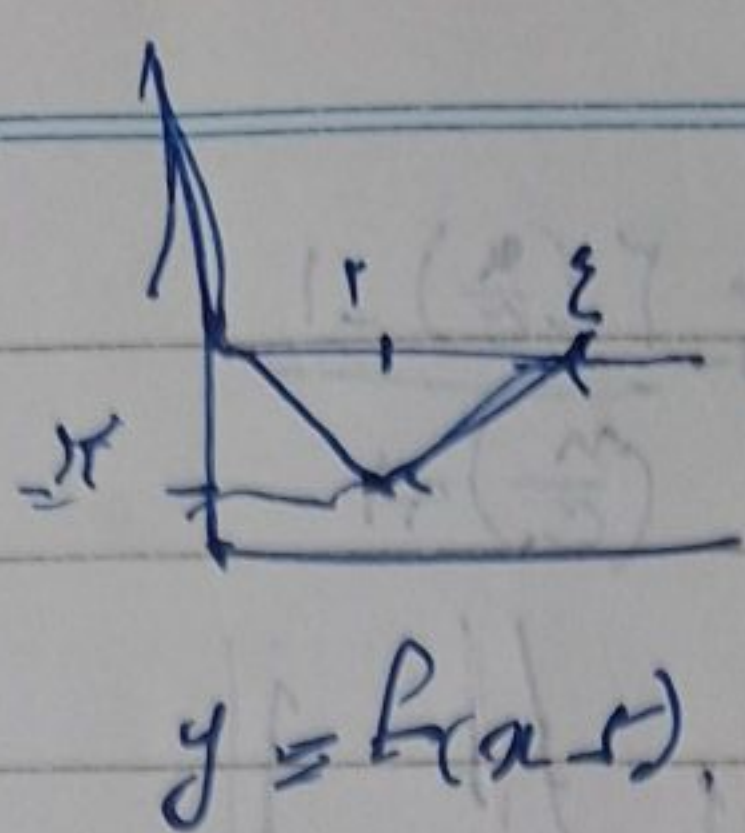
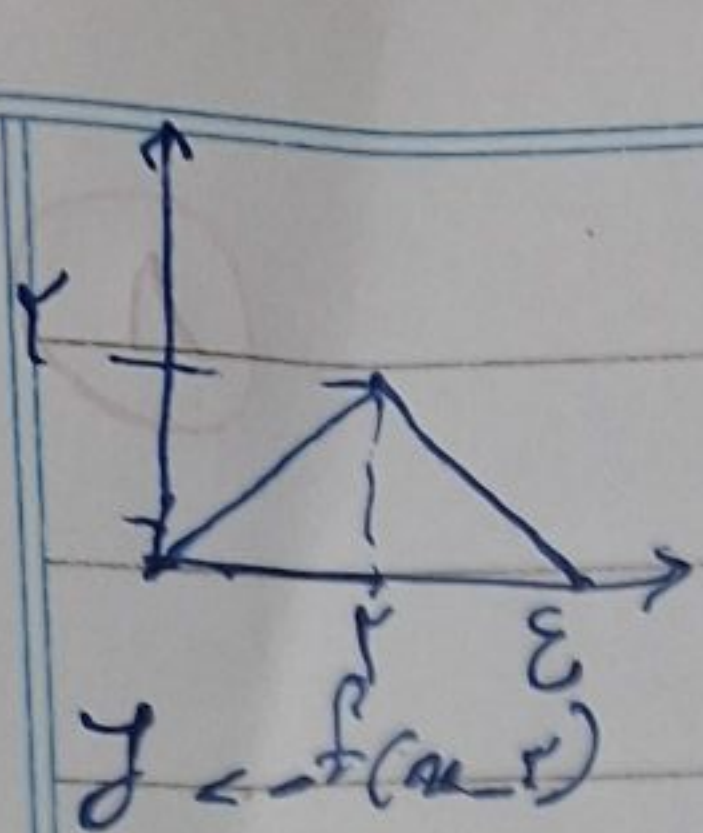
(د) ④

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

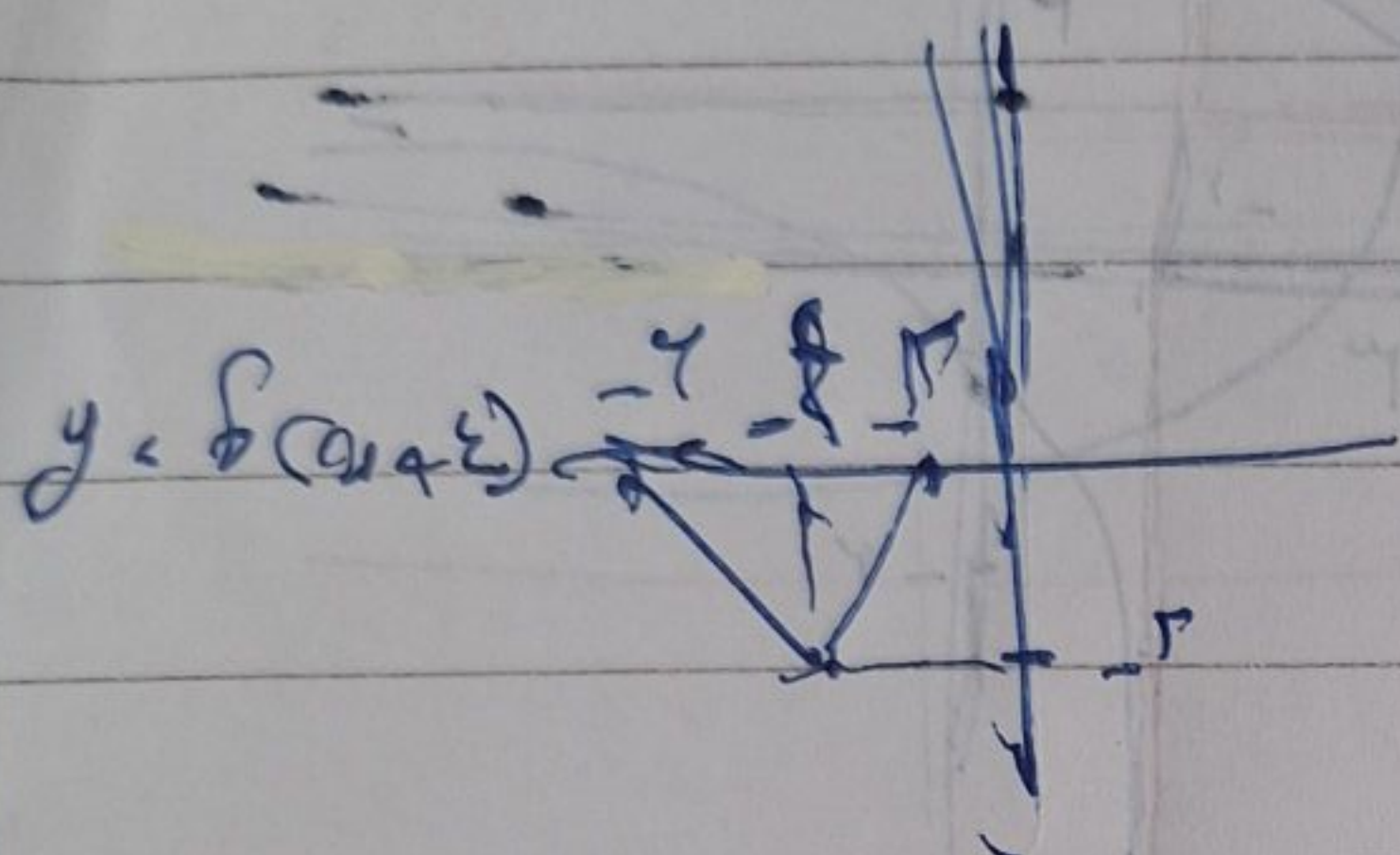
$$r = \frac{a-a}{r} \rightarrow a-a = r$$

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

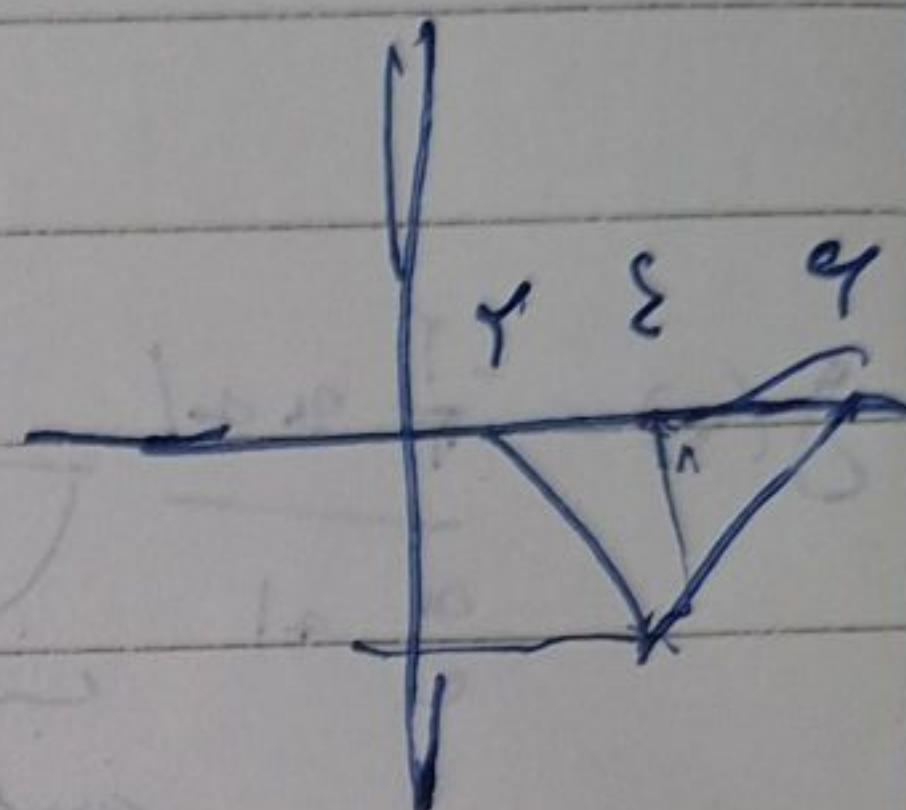
$$\left. \begin{array}{l} r = 10 \\ a = 4 \end{array} \right\}$$



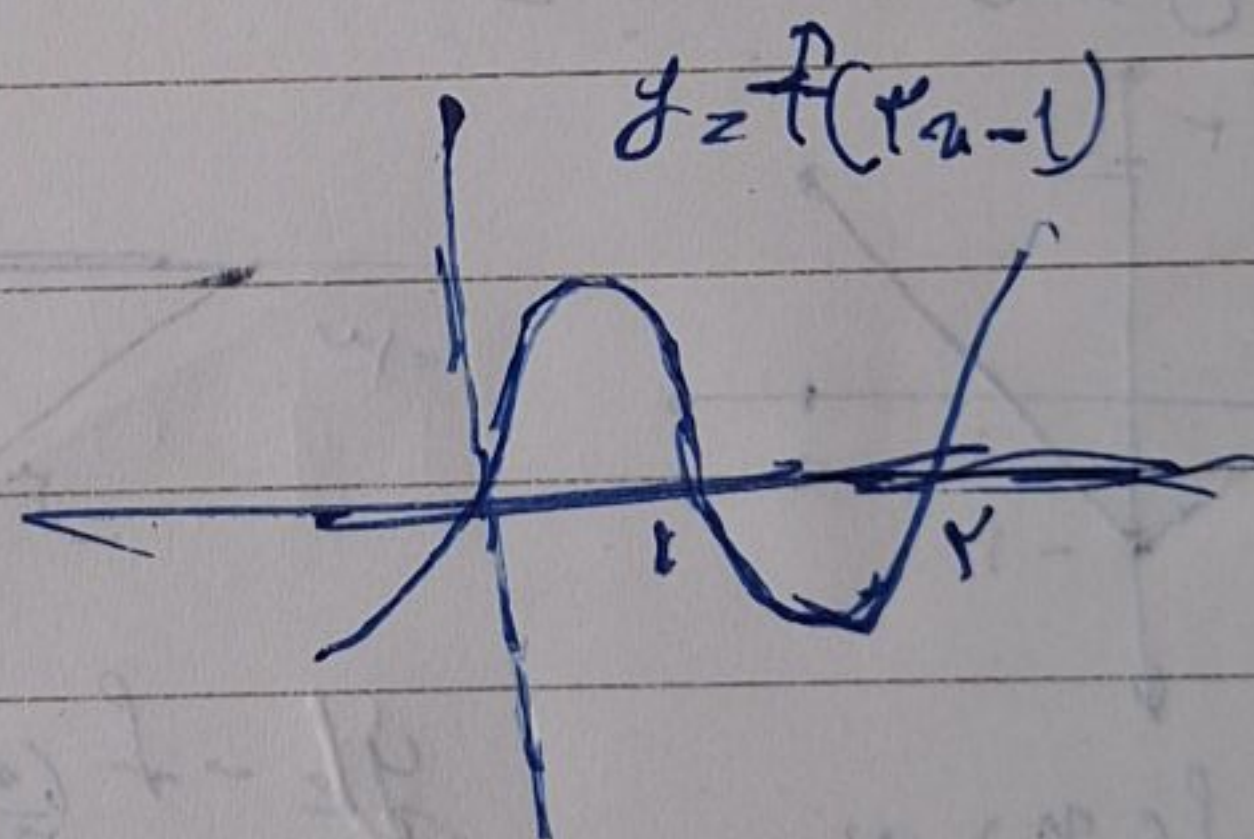
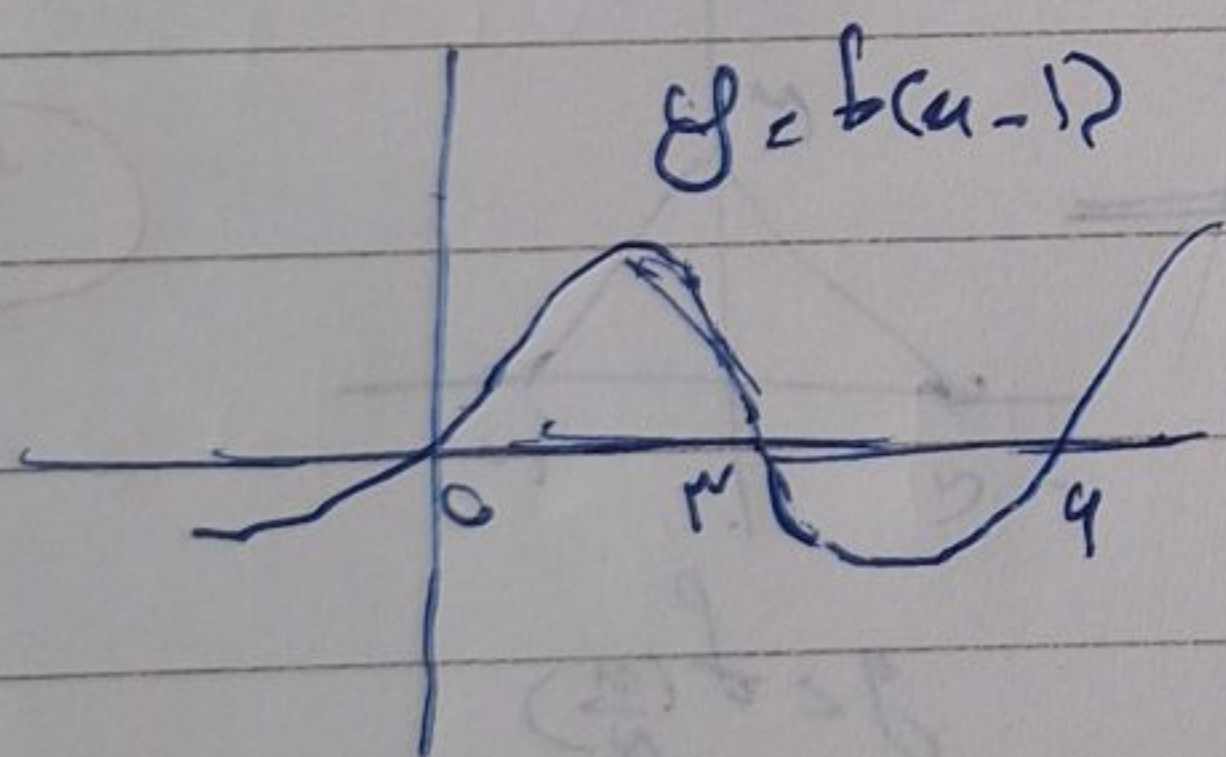
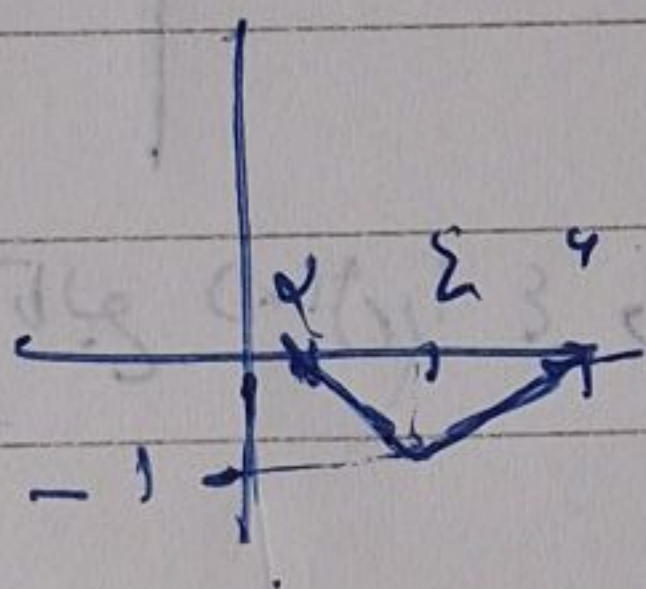
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$y = f(x, \varepsilon)$



$y = \frac{1}{r} f(\varepsilon - u)$



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$(n+1) f(r_n - 1) \geq 0 \Rightarrow (n+1) f(r_n - 1) \leq 0$

(2)

$u = 0, 1, 2 \Rightarrow y \in [-1, 0] \cup [1, 2]$

$f(n) = |r_n - r| \cdot k \Rightarrow |r'(n+k) - r| \cdot k \Rightarrow |r_{n+k} - r| \cdot k$

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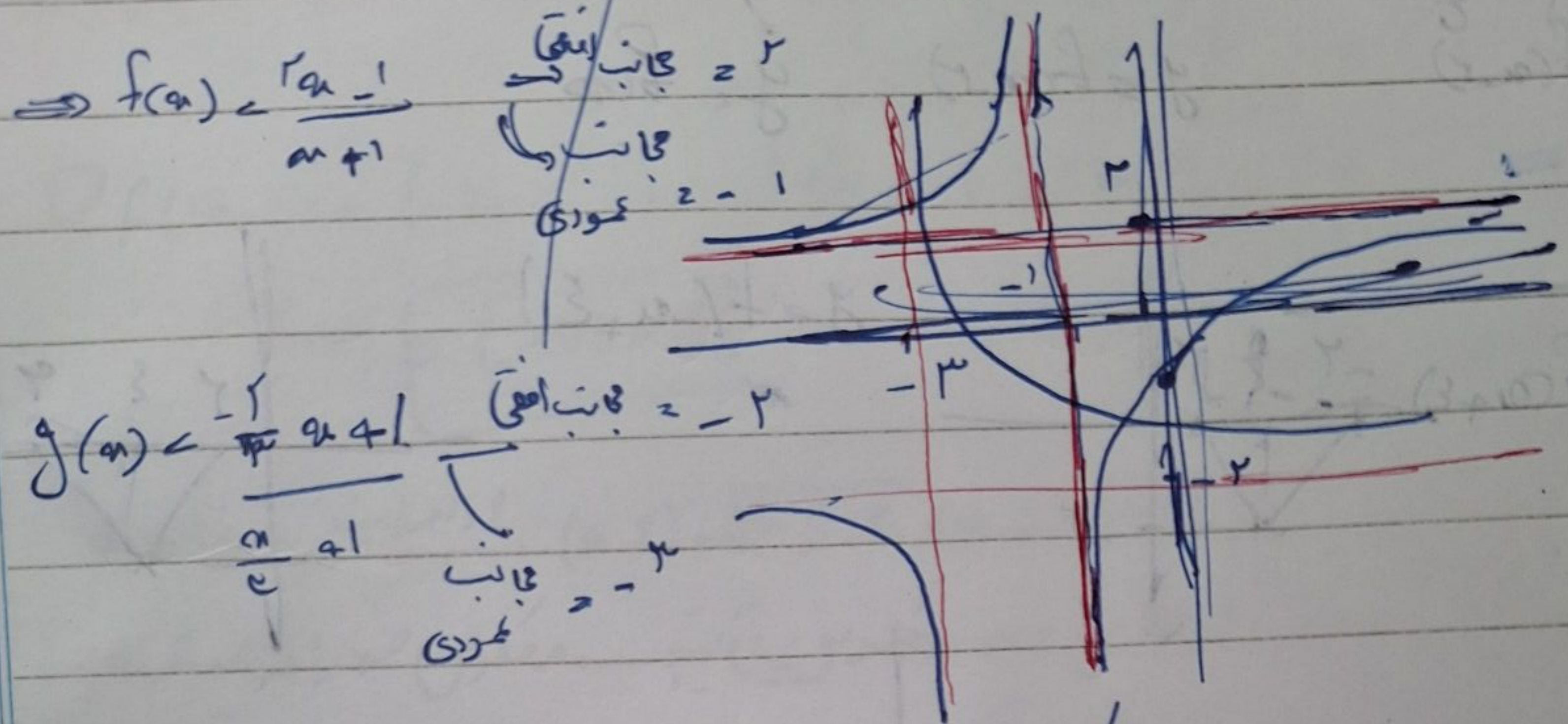
$|r_{n+k} - r| \cdot k = |r_{n+1} - r| \cdot 1 \Rightarrow |r_{n+1} - r| = |r_n - r| \cdot \frac{1}{k}$

$k = \varepsilon \cdot 0$

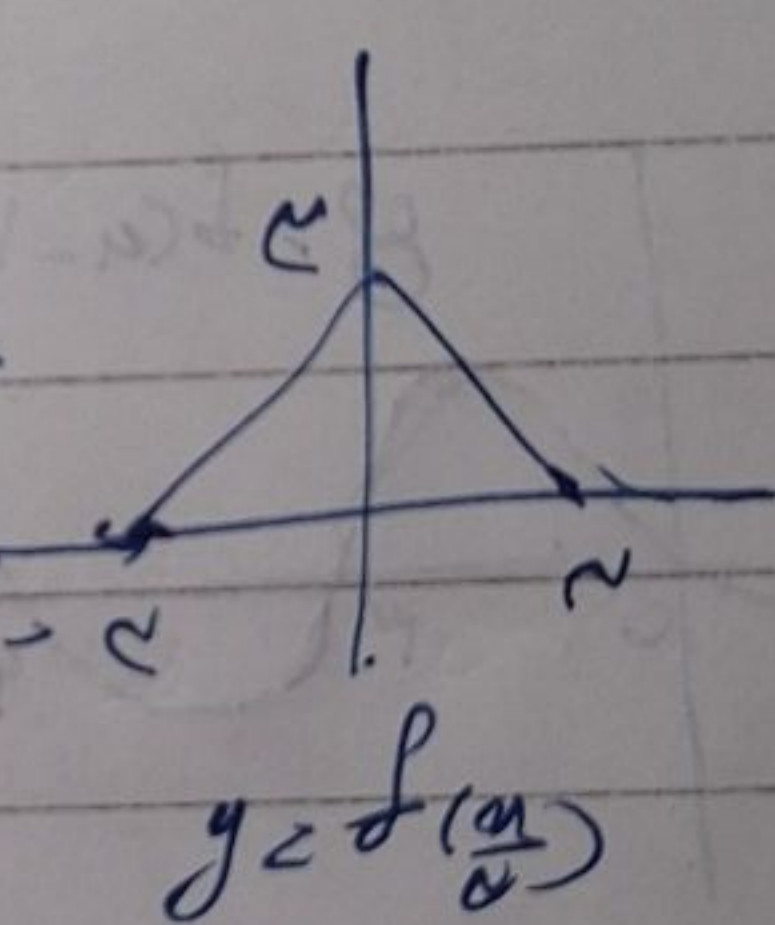
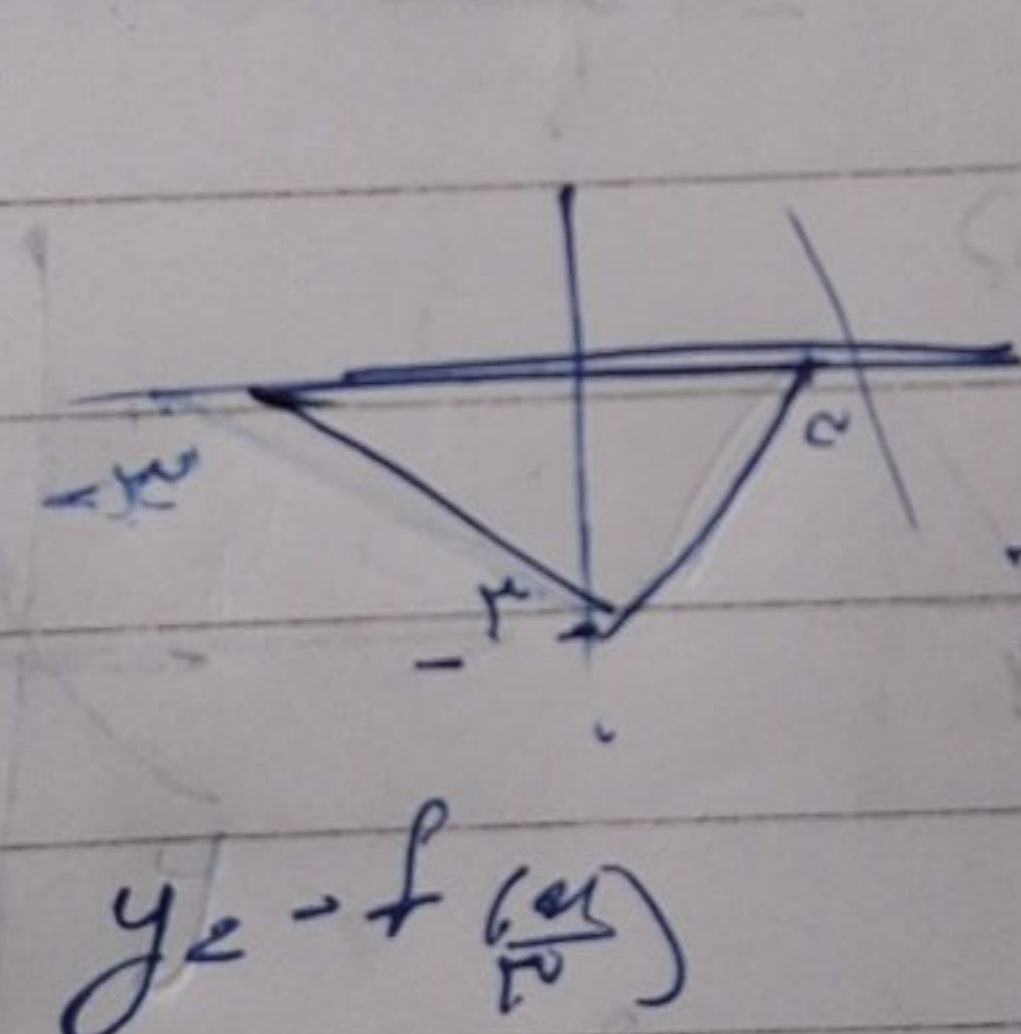
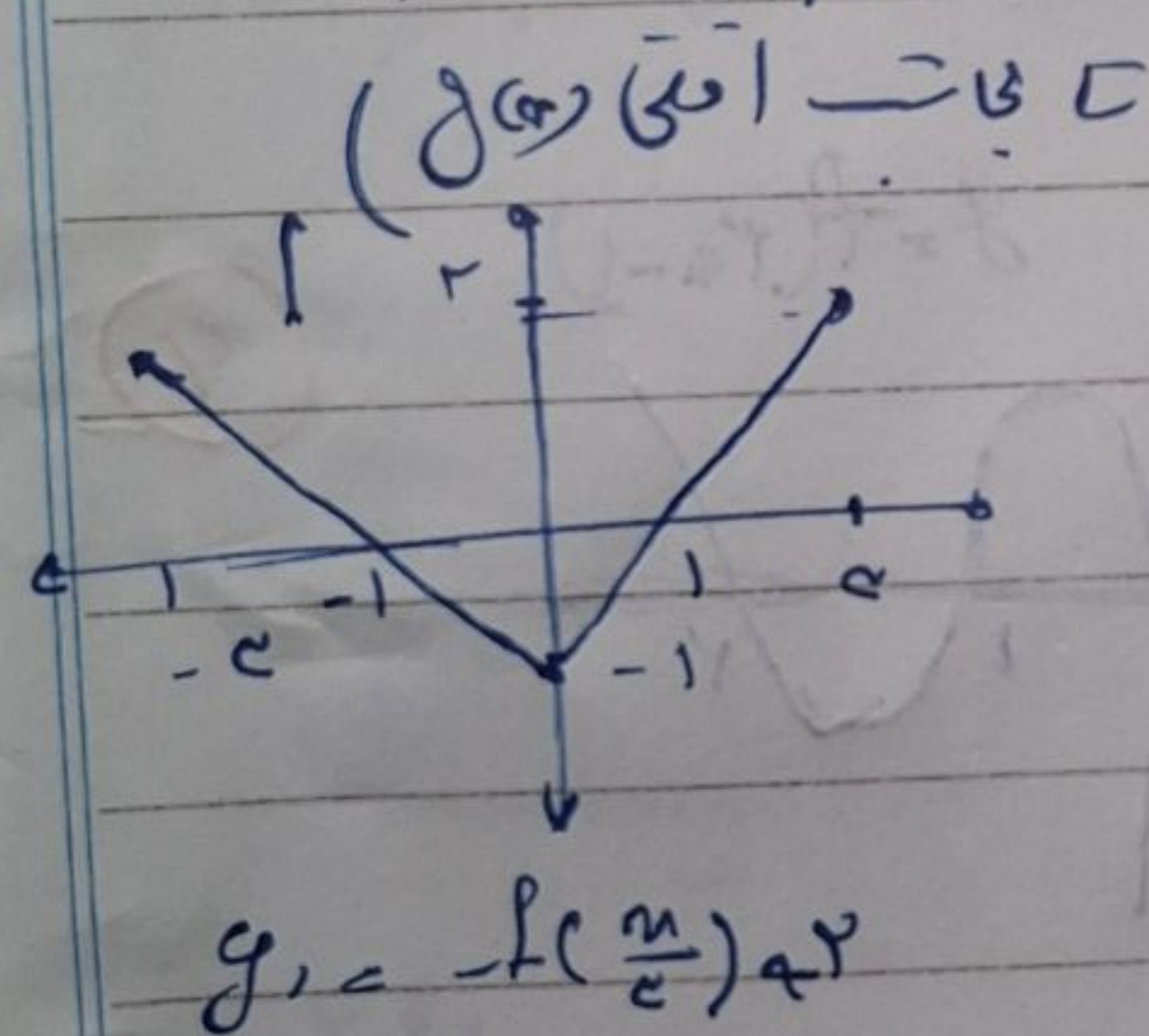
$k = 1, 0 \times$

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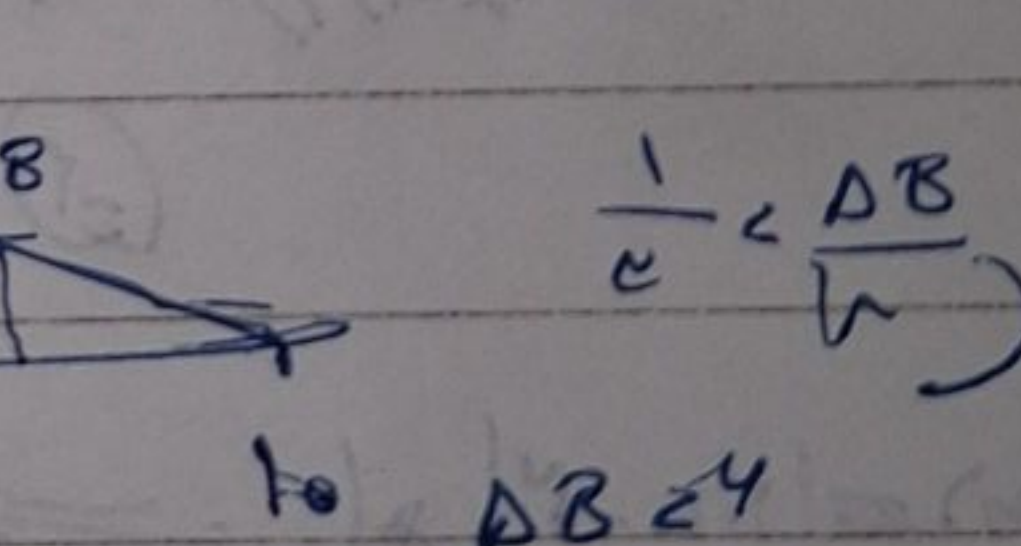
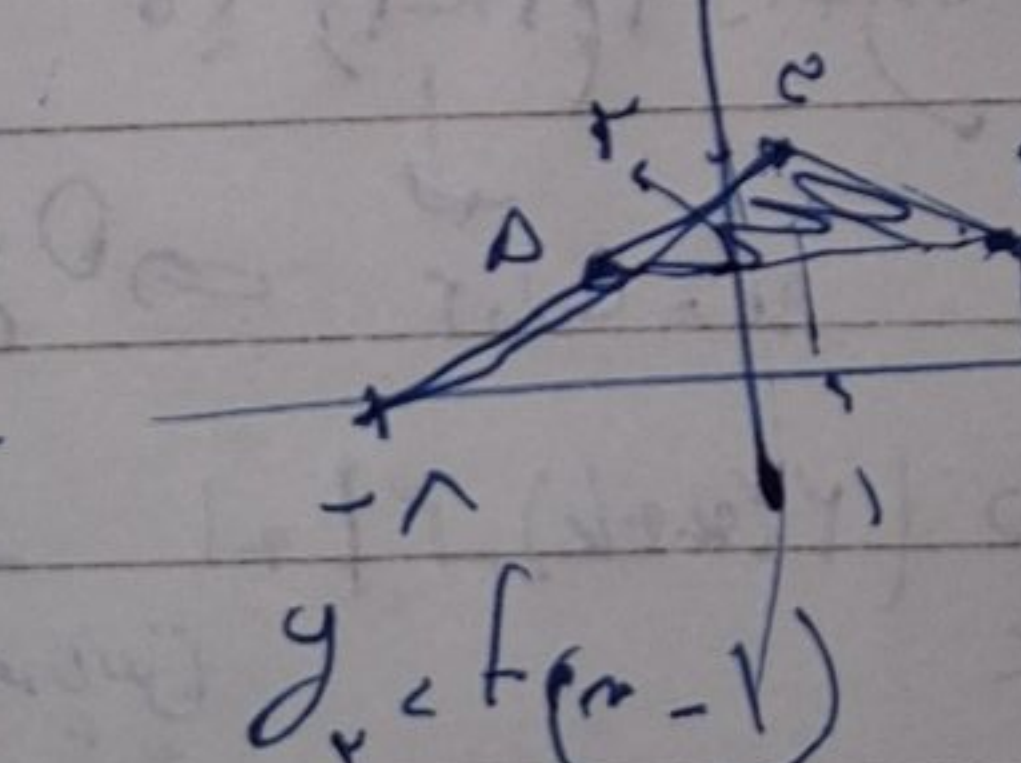
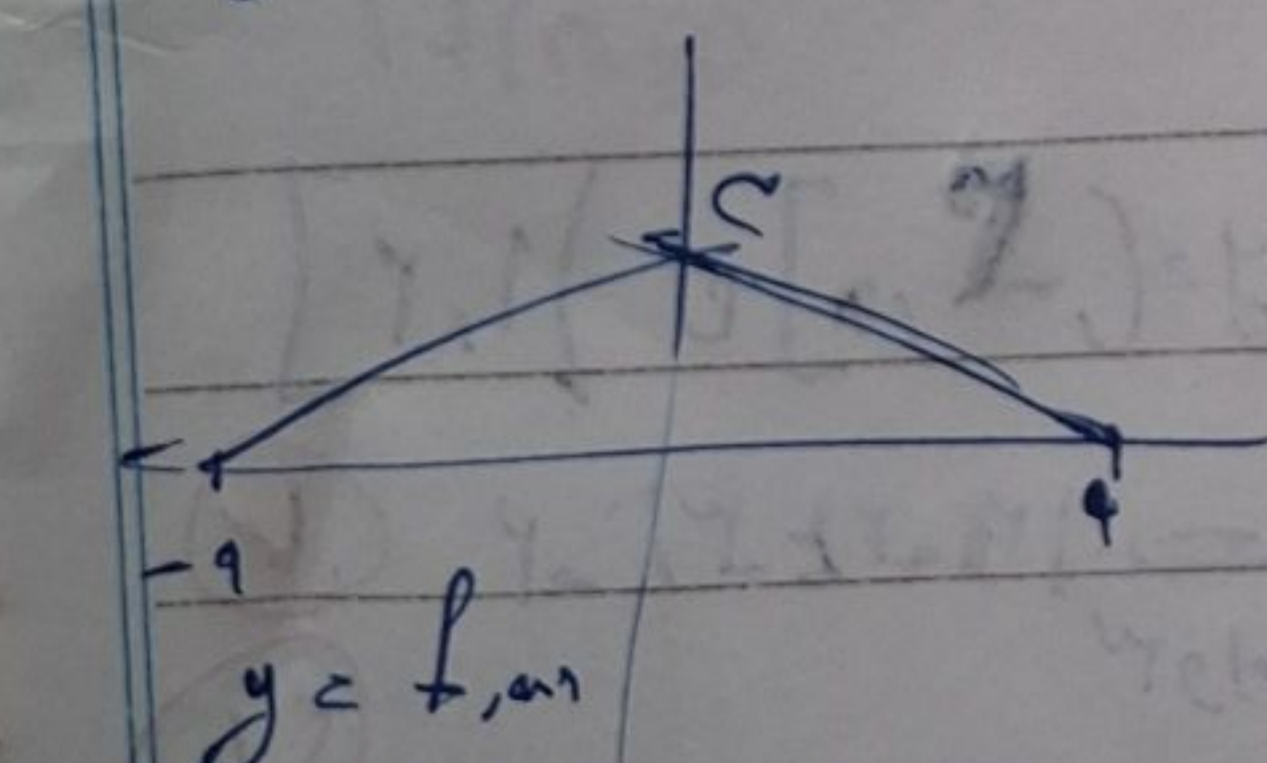
$f(x) = \frac{2x-1}{x+1}$ مطلوب $\frac{2x-1}{x+1} = \frac{2}{x}$ مطلوب $\frac{2x-1}{x+1} = \frac{2}{x}$



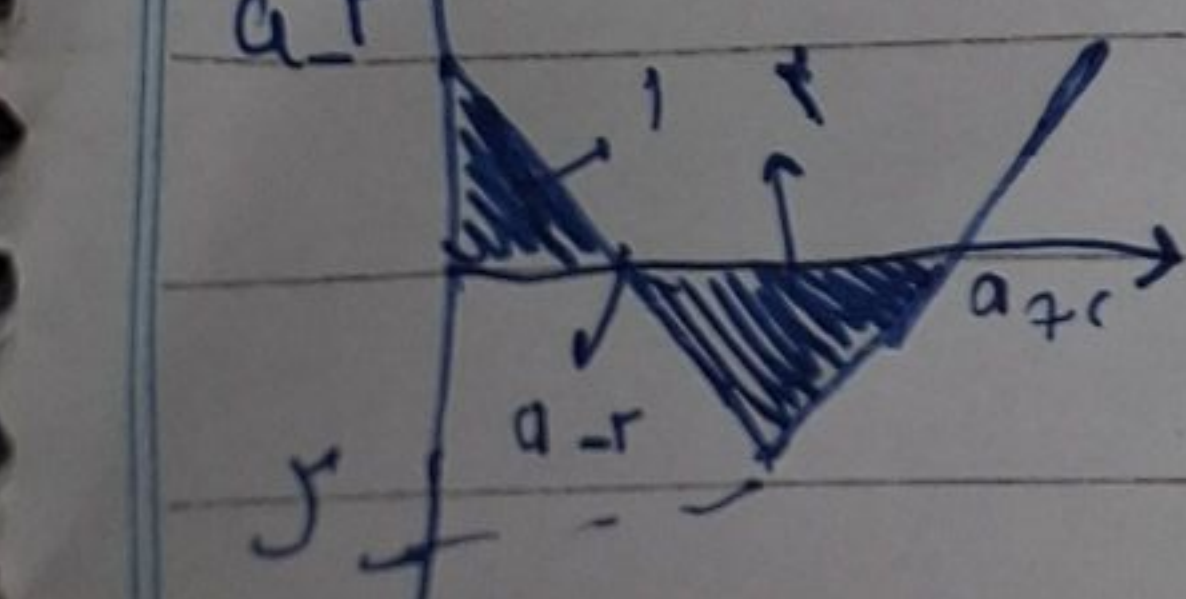
تابع $f(x)$ را $g(x)$ واحد جالایبریم (از جانب افقی)



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$\frac{(x-c)^2}{c} = \frac{4}{c} \Rightarrow a = c$ مطلوب $\frac{(x-c)^2}{c} = \frac{4}{c} \Rightarrow a = c$



$f\left(\frac{1}{a}\right) = \frac{2}{a} - 1 = \frac{2-c}{c} = \frac{2}{c} - 1$

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