

آرودشا یادی یازدهم هفته اول شش ماهه

$$f(x) = \{(-1, 0), (0, 1), (2, \sqrt{3}), (1, 0)\} \quad g(x) = \{(-1, 1), (0, 4), (2, 0), (1, 2)\}$$

$$rg \circ f = \{(-1, 2), (0, 4), (1, 4)\} \quad r + a + f = 11$$

$$f(x) = rx - 1 \rightarrow D = [r, +\infty) \rightarrow f(r) = r(r) - 1 = a \rightarrow R_f = [a, +\infty)$$

$$g(x) = \frac{1}{x}x + r \rightarrow D = (-\infty, r] \rightarrow g(r) = \frac{1}{r}(r) + r = f \rightarrow R_g = (-\infty, f]$$

$$R_f \cup R_g = [a, +\infty) \cup (-\infty, f] = \mathbb{R} - (f, a)$$

$$y = -\frac{x^2}{r} + ax + r \Rightarrow -\frac{x^2}{r} + ax + r > \frac{r}{r} \Rightarrow -x^2 + rx + r > r \Rightarrow -x^2 + rx + r > 0$$

$$\Rightarrow -1 < x < r$$

x	-1	r
	$-\phi$	$+\phi$

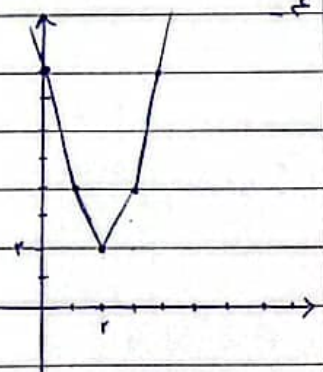
 $(a, b) \rightarrow (-1, r) \quad a = -1 \quad b = r$

$$\Rightarrow \sqrt{b-a} = \sqrt{r+1} = \sqrt{f} = r$$

$$y = |x-1| + |x-r| + |rx-f|$$

0	1	r	f
1	f	r	1

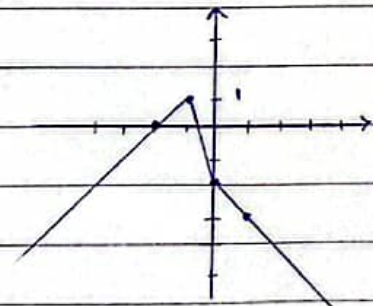
کمترین مقدار $\rightarrow n=2$



$$y = |x| - r|x+1|$$

$-r$	-1	0	1
0	1	$-r$	$-r$

$$\Rightarrow R_f = (-\infty, 1]$$



s.a.m

$$y = \frac{x^r + \omega x + m}{x+1} \rightarrow y(x+1) = x^r + \omega x + m \rightarrow x^r + x(\omega - y) + (m - y) = 0 \quad 6$$

$$x = \frac{-b \pm \sqrt{\Delta}}{ra} \quad \Delta \geq 0 \rightarrow (\omega - y)^r - \epsilon(1)(m - y) \geq 0 \rightarrow r\omega - 1 \cdot y + y^r - \epsilon m + \epsilon y \geq 0$$

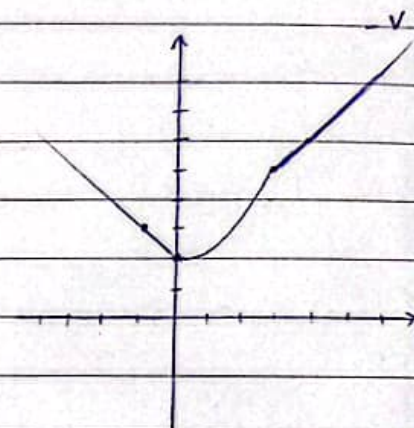
$$\rightarrow y^r - \epsilon y + r\omega - \epsilon m \geq 0 \rightarrow (y^r - \epsilon y + y) + (r\omega - \epsilon m - y) \geq 0 \rightarrow (y - \epsilon)^r + (1 - \epsilon m) \geq 0$$

$$\Rightarrow 1 - \epsilon m \geq 0 \rightarrow 1 \geq \epsilon m \rightarrow m \leq \frac{1}{\epsilon} \rightarrow 1, 2, 3, \epsilon$$

برای m های کوچکتر مساوی ϵ
برای ϵ عدد طبیعی

$$f(x) = \begin{cases} x+r & x \geq r \\ x^r - rx + r & 0 \leq x < r \\ |x|+r & x < 0 \end{cases} \rightarrow \begin{matrix} \begin{matrix} |^r & |^{\epsilon} \\ \omega & y \end{matrix} \\ \begin{matrix} |^0 & |^r \\ r & \omega \end{matrix} \\ \begin{matrix} |^0 & |^{-1} \\ r & r \end{matrix} \end{matrix}$$

$$\Rightarrow R_f = [r, +\infty)$$



$$f(x) = \begin{cases} x^r + \epsilon x + r & x \leq 0 \\ [rx] - rx & x > 0 \end{cases} \rightarrow \begin{cases} x_{\min} = -\frac{b}{ra} = -\frac{\epsilon}{r} = -r \\ y_{\min} = -1 \end{cases} \rightarrow R_f = [-1, +\infty)$$

$$R_f \cup R_r = [-1, +\infty) \rightarrow \text{مجموعه مقادیر}$$

$$rx + r \geq 0 \rightarrow x \geq -\frac{r}{r} \rightarrow D = [-\frac{r}{r}, +\infty) \rightarrow b = -\frac{r}{r} \quad 9$$

$$y_{\max} = a+1 \rightarrow R = (-\infty, a+1] = (-\infty, \omega] \rightarrow a+1 = \omega \rightarrow a = \epsilon \quad ab = (-\frac{r}{r})(\epsilon) = -\epsilon$$

$$f(x) + g(x) = r\sqrt{r+r\sqrt{1-x^r}} \rightarrow g(x) = r\sqrt{r+r\sqrt{1-x^r}} - f(x) \quad 10$$

$$y = \frac{f}{r} - \frac{1}{r}((r\sqrt{r+r\sqrt{1-x^r}}) - f) = \frac{f}{r} - \sqrt{r+r\sqrt{1-x^r}} + \frac{f}{r} \rightarrow y = \frac{f}{r} - \sqrt{r+r\sqrt{1-x^r}}$$

$$\rightarrow y = \sqrt{x+1} + r\sqrt{1-x} - \sqrt{r+r\sqrt{1-x^r}} = \sqrt{x+1} + r\sqrt{1-x} - \sqrt{r\sqrt{1+\sqrt{1-x^r}}} \quad D = [1, 1]$$

$$\rightarrow x = -1 \rightarrow y = 0 \quad x = 1 \rightarrow y = \sqrt{r} \rightarrow R = [0, \sqrt{r}]$$

s.a.m