

$$\begin{aligned} A &= f(n) & B - nA &= C \\ B &= f(-n) & A + nB &= C \rightarrow A = C - nB \\ C &= 2|n| + 1 \end{aligned} \quad \Rightarrow \quad B - n(C - nB) = (1 + n^2)B = C(1 + n)$$

$$B = \frac{C(1+n)}{1+n^2} \quad A = C - nB \Rightarrow A = C - \frac{nC(1+n)}{1+n^2} \rightarrow A = \frac{C(1-n)}{1+n^2}$$

$$\xrightarrow{C=2|n|+1} f(n) = \frac{(2|n|+1)(1-n)}{1+n^2}$$

منفت بود یا من خیل
منتش کردم ؟

$$f(0)+f(0) = n^2 - 3n + 4 \rightarrow f(0) = 3 \Rightarrow f(n) + 3 = n^2 - 3n + 4$$

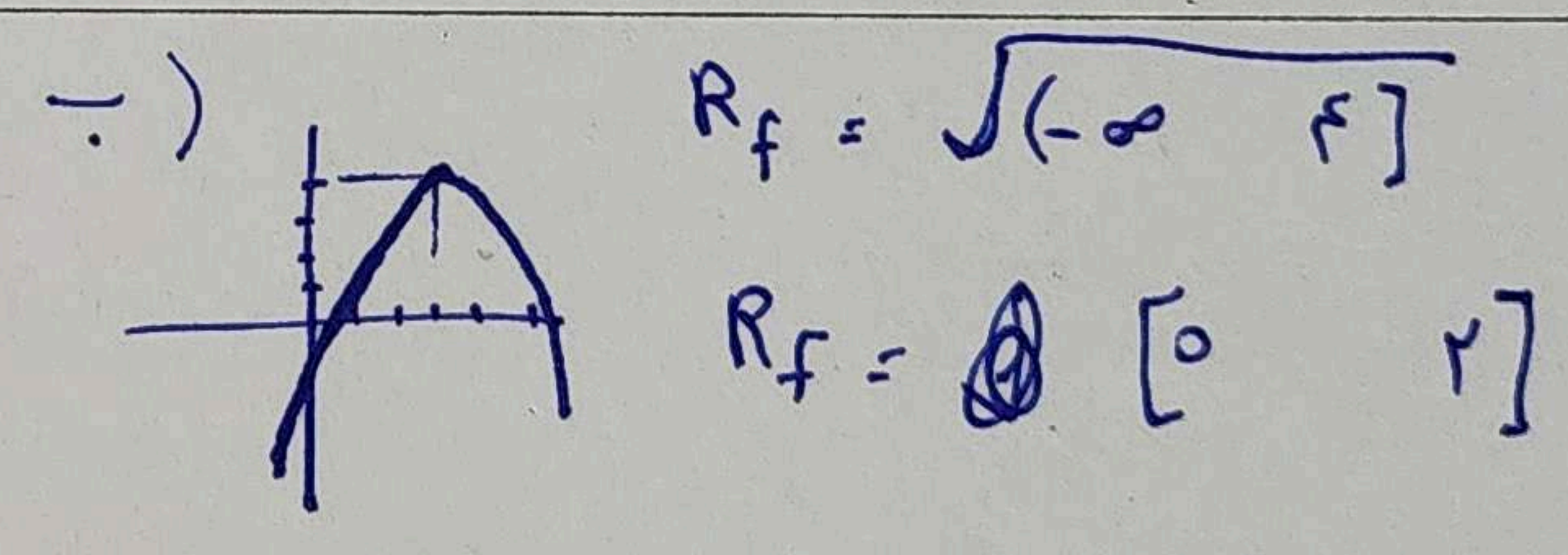
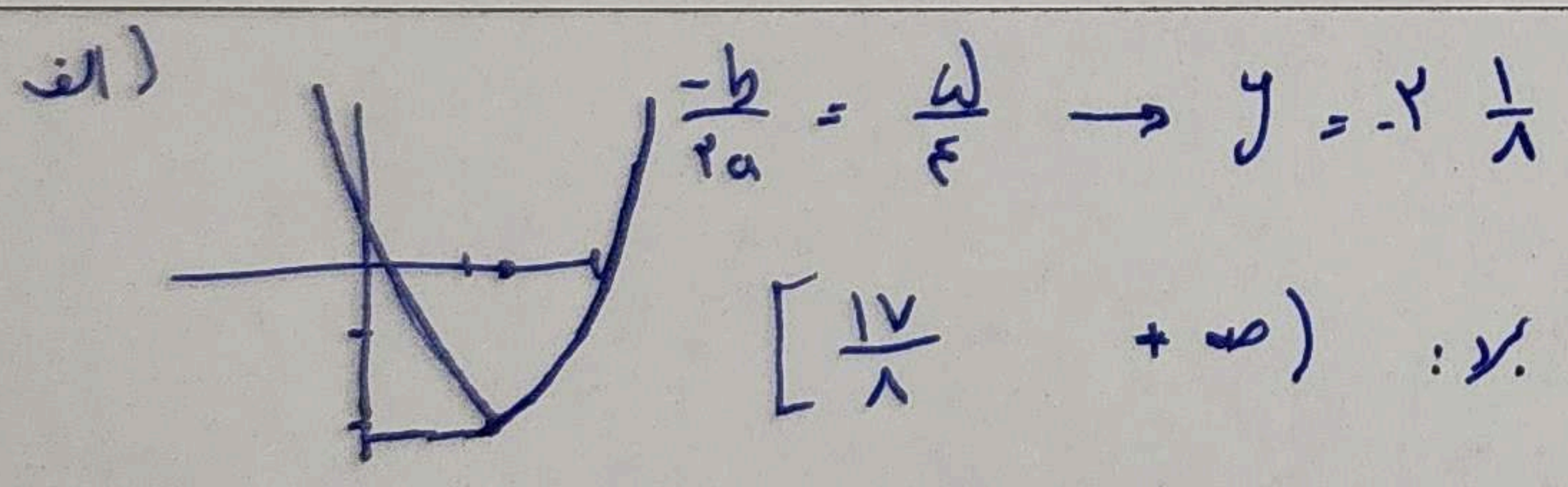
$$(f(n)) \xrightarrow{n=n^2} n^2 - 3n + 3 = (n^2)^2 - 3(n^2) + 3 \rightarrow n^4 - 3n^2 + 3$$

$$n^2 + n + 2 = y - y \rightarrow n^2 + n - yn + 2 - y \rightarrow n^2 + n(1-y) + (2+y)$$

$$\frac{-(1-y) \pm \sqrt{(1-y)^2 - 4(2+y)}}{2} \quad \Delta \geq 0 \rightarrow y^2 - 2y + 1 - 4 - 4y = y^2 - 6y - 3$$

$$y^2 - 6y - 3 \geq 0 \quad (y-3)(y+1) \quad \frac{-1 \pm \sqrt{1+3}}{2}$$

$$(-\infty -1] \cup [3 + \infty)$$



ج) $\sqrt{R} \rightarrow R_f = [0, +\infty)$

د) $n^3 - 6n^2 + 9n + 4 \rightarrow R \in (0, +\infty)$
 $\log(0, +\infty) = R$

ه) $R - \{2\} = R - \{\frac{3}{2}\}$

و) $\sqrt{R - \{4\}} \Rightarrow [0, +\infty) - \{2\}$

ز) $\sqrt{n^2+3} + \frac{1}{\sqrt{n^2+3}} \xrightarrow{\text{مشتق}} [\frac{4\sqrt{3}}{3}, +\infty)$

ح) $\xrightarrow{n=0} (\frac{1}{4}, \infty)$

$$\rightarrow \frac{1}{x-3} : \begin{matrix} \rightarrow +\infty \\ \rightarrow 0 \end{matrix} \rightarrow \begin{matrix} 3 \\ -4 \end{matrix} \quad (-\infty -4] \cup [3 +\infty)$$

$$\rightarrow \text{اصلی} \quad 3x^2 + 4 = yx^2 - y \Rightarrow x = \sqrt{\frac{y+4}{y-3}} \quad \frac{-4 \quad 3}{+1-1+}$$

$$R_f = (-\infty -4] \cup [3 +\infty)$$

$$\begin{matrix} \rightarrow \\ \rightarrow -1 \end{matrix} \quad \frac{2(1)+4}{1-3} = \frac{6}{-2} = -3$$

$$\frac{2(-1)+4}{-1-3} = \frac{2}{-4} = -\frac{1}{2}$$

$$R_f = [-3 \quad -\frac{1}{2}]$$

الف)

$$y \geq 0 \quad x = \frac{1}{x^2}$$

$$x \rightarrow +\infty$$

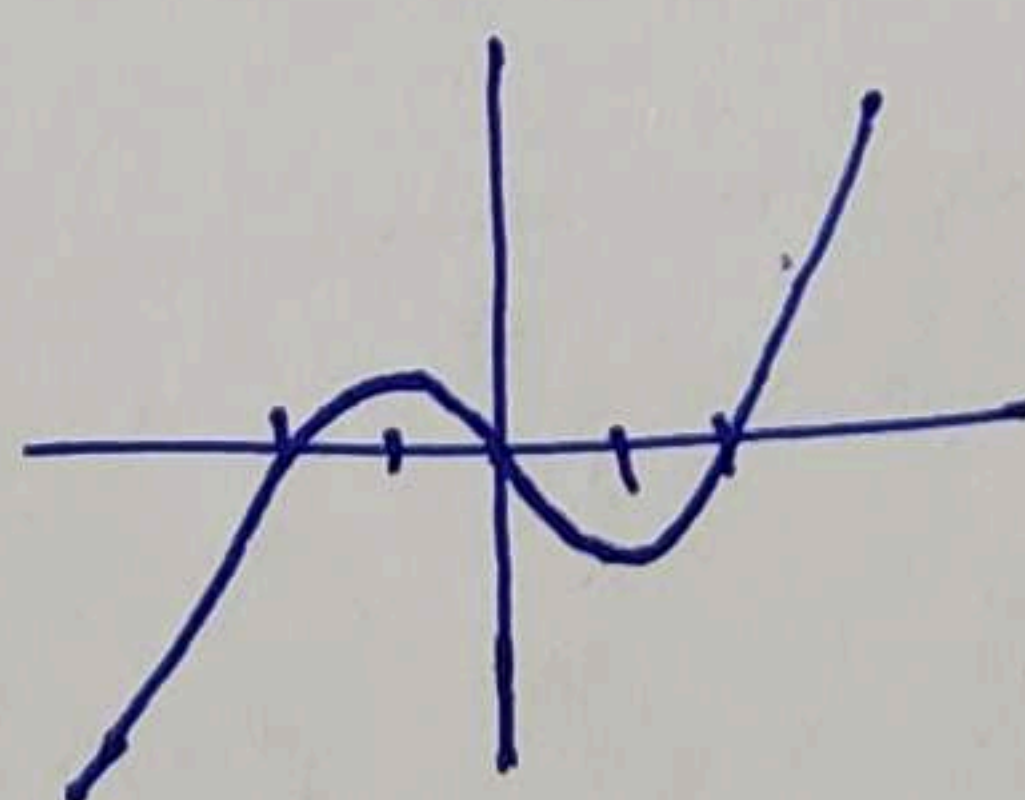
$$R_f = [0 \quad +\infty)$$

ب)

$$\frac{9x-11}{x-1} \Rightarrow \frac{9(x-2)}{x-1} = \sqrt{\frac{9}{x}}$$

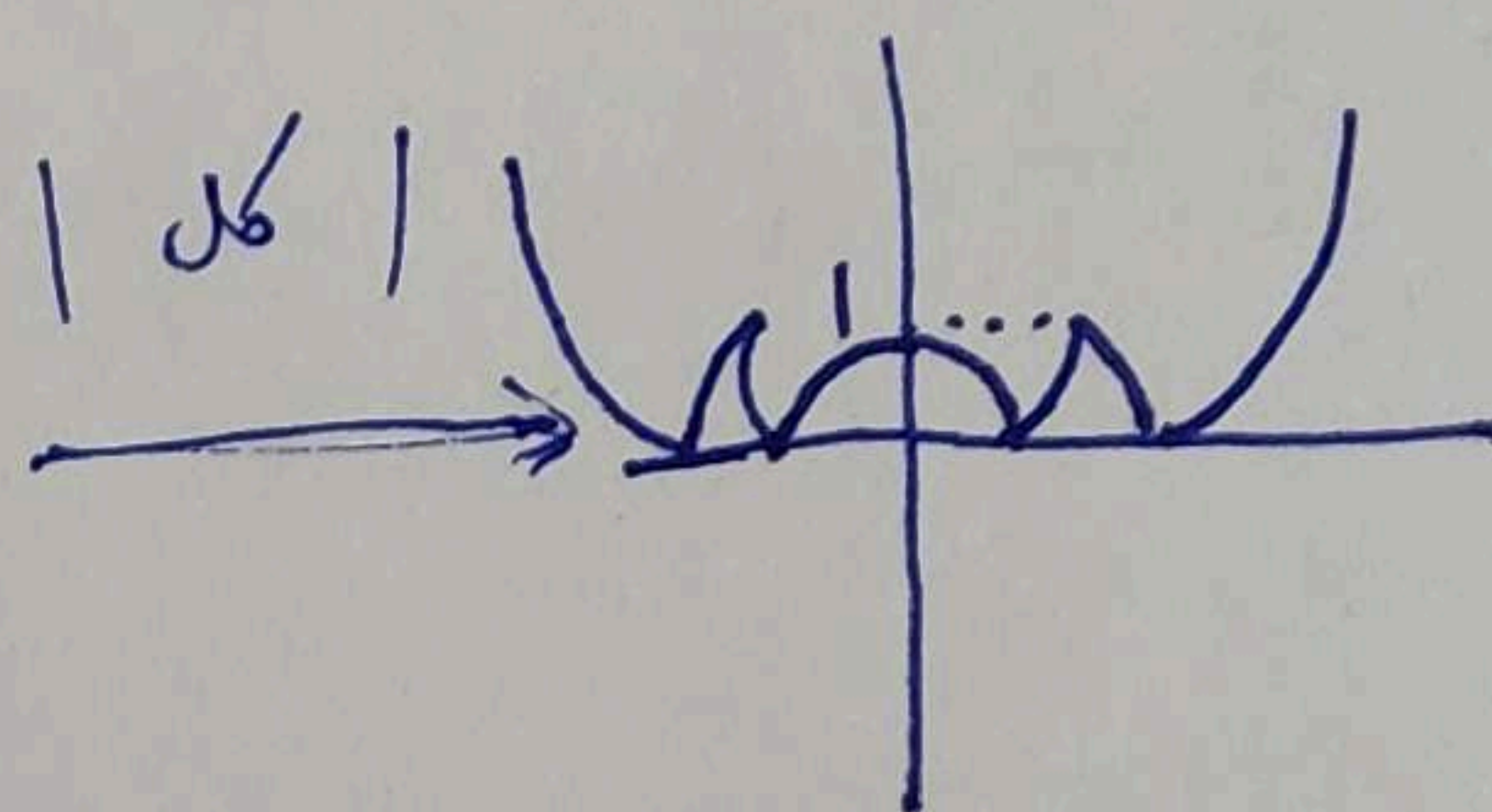
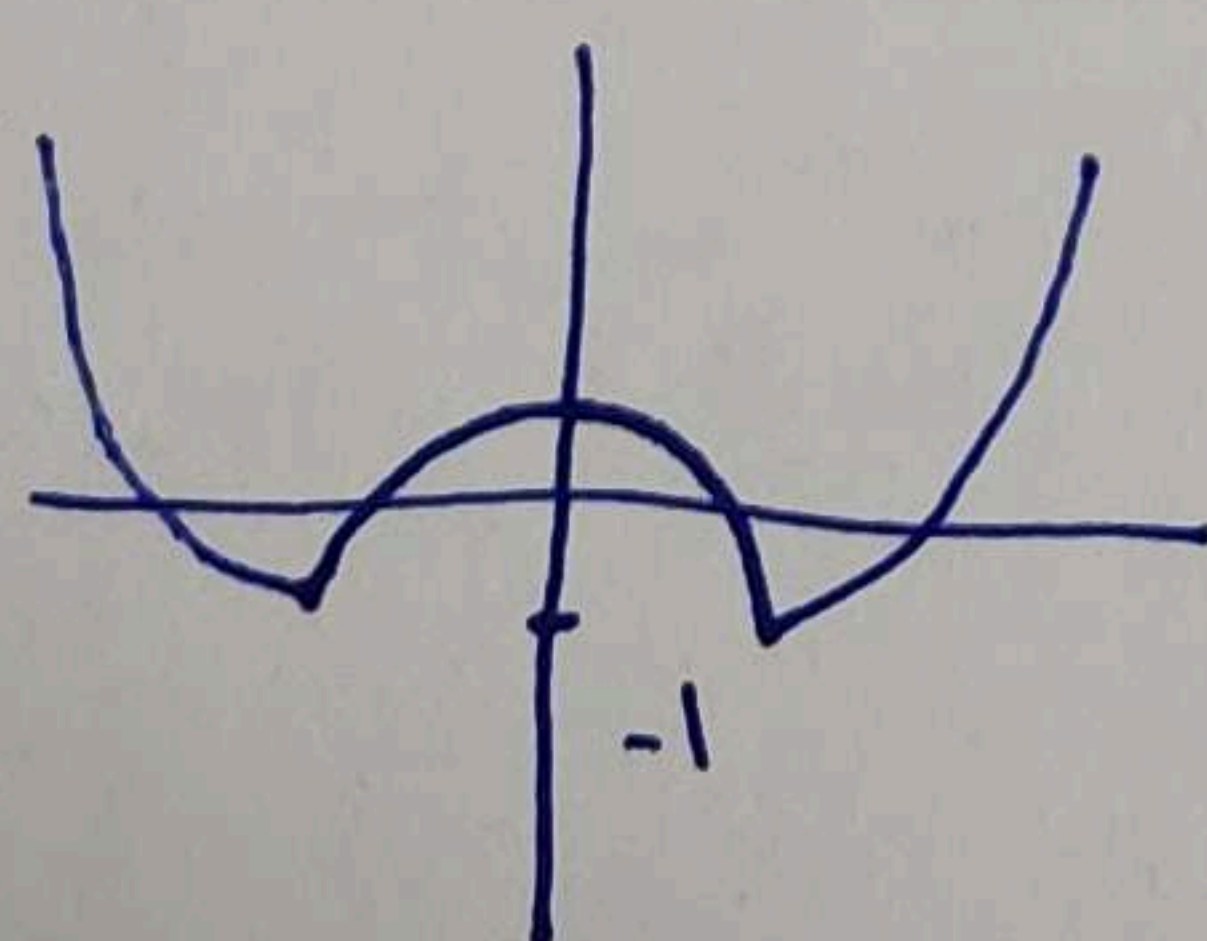
$$\left\{ \frac{3}{x} \right\} = R_f$$

$$\frac{0}{-x^2-2x} \quad x^2-2x$$



$$R_f = R$$

$$|f(x)| + 1$$



تا بیرون دارد