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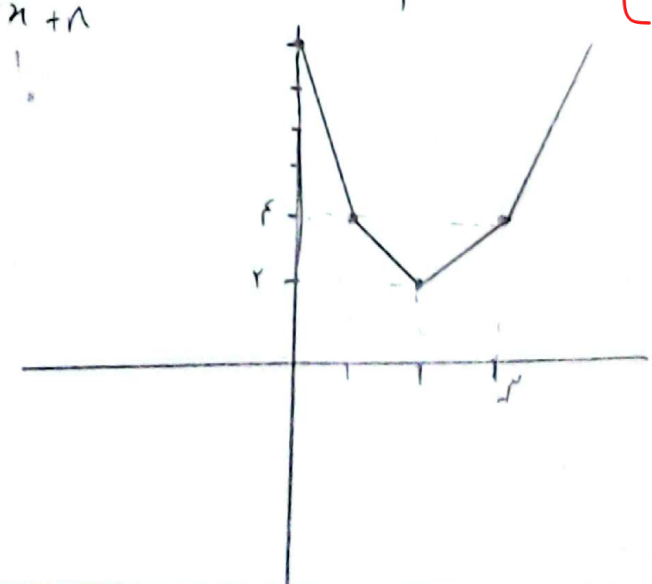
$f(x) = \sqrt{1-x^2}$ $g(x) = \{(-1,1), (0,1), (1,0), (1,1)\}$ (1)
 $D_f = 1-x^2 \geq 0$
 $1 \geq x^2 \rightarrow 1 \geq x \geq -1 \rightarrow D_f \cap D_g = \{1, -1, 0\}$
 $f-g = \{(1,0), (-1,0), (0,1)\}$ $R_{f-g} = \{A, B, C\} \rightarrow \text{II}$

$f(x) = 2x-1$ $g(x) = \frac{1}{x}x+r$ $R_f \cup R_g = [a, +\infty) \cup (-\infty, r]$ (2)
 $R_f = [a, +\infty)$ $R_g = (-\infty, r]$

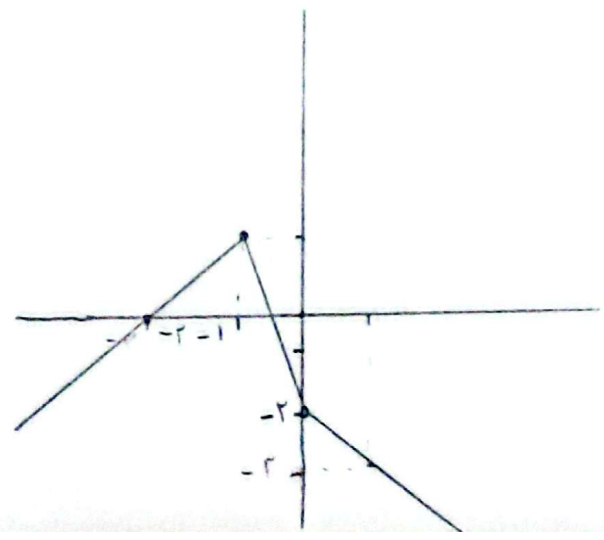
$y = \frac{-x^2}{r} + x + r$ $\frac{-x^2}{r} + x + r > \frac{r}{r} \rightarrow -\frac{x^2}{r} + x + \frac{r}{r} > 0 \rightarrow x_1 = -1$ (3)
 $(-1, r)$ $\sqrt{r+1} = r$

$y = |x-1| + |x-r| + |2x-1|$

$y_{min} = 2$
$x_{min} = 1$



$y = |x| - 2|x+1|$
 $R_f = (-\infty, 1]$ (4)



(15)

$$\frac{x^2 + ax + m}{x+1} = y \quad yx + y = x^2 + ax + m \rightarrow x^2 + (a-y)x + m - y$$

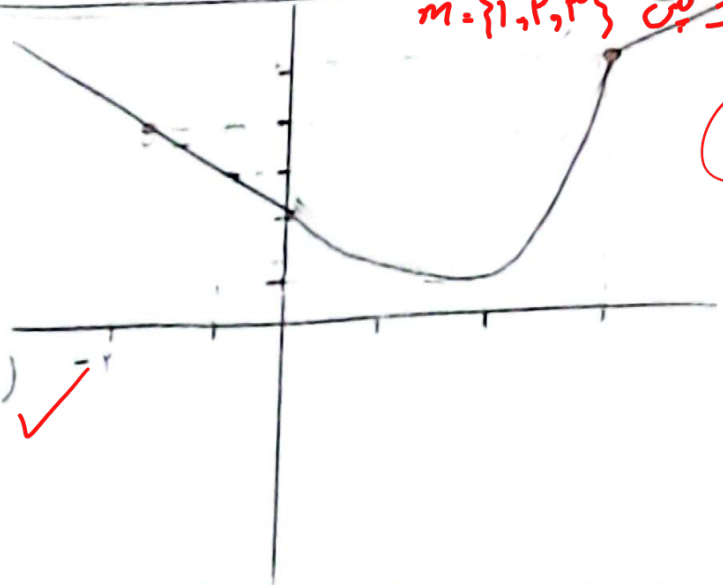
$$\Delta = y^2 - 4y + 4a - 4m \geq 0 \rightarrow + \text{مطلوبه} \rightarrow \begin{cases} \Delta < 0 \\ a > 0 \end{cases}$$

$\Delta < 0 \rightarrow 34 - 100 + 14m < 0 \rightarrow m < 4$

انہ $m = 4$ باشد ۳: ۱: ۲: ۳: حذف قسمتہ و
دینہ R میں ہیں $m = \{1, 2, 3\}$

$$f(x) = \begin{cases} x+2 & x \geq 2 \\ x^2 \leq x+2 & 0 \leq x < 2 \\ |x|+2 & x < 0 \end{cases}$$

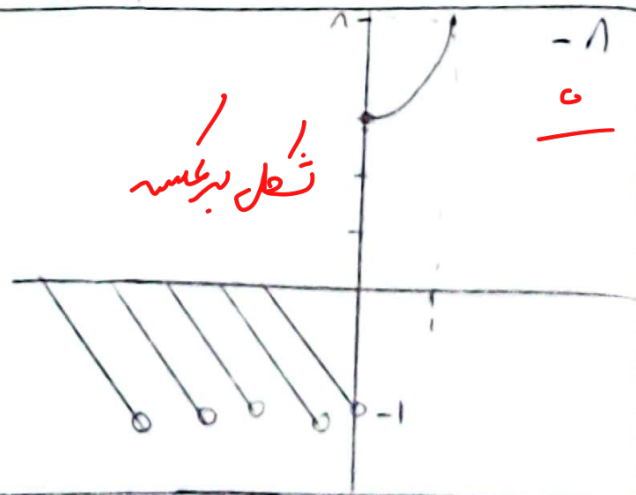
$\frac{1}{x} = 1$



(2)

$1 - 2 + 2 = 1 \quad R = [1, +\infty)$ ✓

$$f(x) = \begin{cases} x^2 + 4x + 7 & x \leq 0 \\ [2x] - 2x & x > 0 \end{cases}$$



شکل برعکس

~~$(-1, 0) \cup [2, +\infty)$~~

$R = [-1, +\infty)$

$y = a + 1 - \sqrt{2x+2} \quad 2x+2 \geq 0 \quad \boxed{b = \frac{2}{x}} \quad \checkmark$

$a = a + 1 - \sqrt{-2+2} \quad \boxed{a = f} \quad \checkmark \quad \boxed{x - \frac{2}{x} = -4} \quad \checkmark$

(2) - 9

I $x+1 \geq 0 \rightarrow \boxed{x \geq -1} \quad I \cap II \rightarrow [-1, 1]$ $f(x) = 2\sqrt{x+1} + 2\sqrt{1-x}$

II $1-x \geq 0 \rightarrow 1 \geq x$ $f(x) + g(x) = 2\sqrt{2+2\sqrt{1-x^2}}$ (2)

$2\sqrt{x+1} + 2\sqrt{1-x} + g(x) = 2\sqrt{2+2\sqrt{1-x^2}}$

$g(x) = 2\sqrt{2+2\sqrt{1-x^2}} - 2\sqrt{x+1} - 2\sqrt{1-x}$

$y = \sqrt{x+1} + 2\sqrt{1-x} - \sqrt{2+2\sqrt{1-x^2}}$

$y \in (-1) = \sqrt{2} \quad [0, \sqrt{2}] \quad \checkmark$

$y(1) = 0$