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نام و نام خانوادگی ...[illegible]... پاسخنامه تشریحی تکلیف شماره ...۸... کلاس ...یازدهم تجربی...B...

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$f(x)=\sqrt{1-x^2}$ $\quad g=\{(-1,1),(0,4),(2,0),(1,2)\}$ $\quad 2g-3f$ مجموع اعضای برد.

$D_f \Rightarrow 1-x^2\geq 0$

$x^2\leq 1 \to -1\leq x\leq 1$

دامنه مشترک $\to -1,0,1 \to f(x)=\{(-1,0),(0,1),(1,0)\}$

$2g-3f \to (-1,(2\times1)-(3\times0))\ ,\ (0,(2\times4)-(3\times1))\ ,\ (1,(2\times2)-(3\times0))$

$(-1,2),(0,5),(1,4) \xrightarrow{\text{مجموع برد}} 2+5+4=11$

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$f(x)=2x-1 \to D_f=[3,+\infty)$ $\qquad g(x)=\frac{1}{3}x+3\ ,\ D_g=(-\infty,3]$

$f(x)=2x-1 \xrightarrow{if\ x=3} (2\times3)-1=5$

$R_f=[5,+\infty)$

$g(x)=\frac{1}{3}x+3 \xrightarrow{if\ x=3} 1+3=4 \Rightarrow R_g=(-\infty,4]$

$R_f\cup R_g=(-\infty,4]\cup[5,+\infty) \Rightarrow \mathbb{R}-(4,5)$

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$y=\frac{-x^2}{2}+x+3$ $\qquad (a,b)$ در $\frac{3}{4}$ بزرگتر $\qquad \max\sqrt{b-a}$

$\frac{-x^2}{2}+x+3-\frac{3}{2}>0$

$\frac{-x^2}{2}+x+\frac{3}{2}>0 \longrightarrow -x^2+2x+3>0$

$-3 \quad 1$

$+ \quad - \quad +$

$(a,b) \to (-3,1)$

$\sqrt{1-(-3)}=2$

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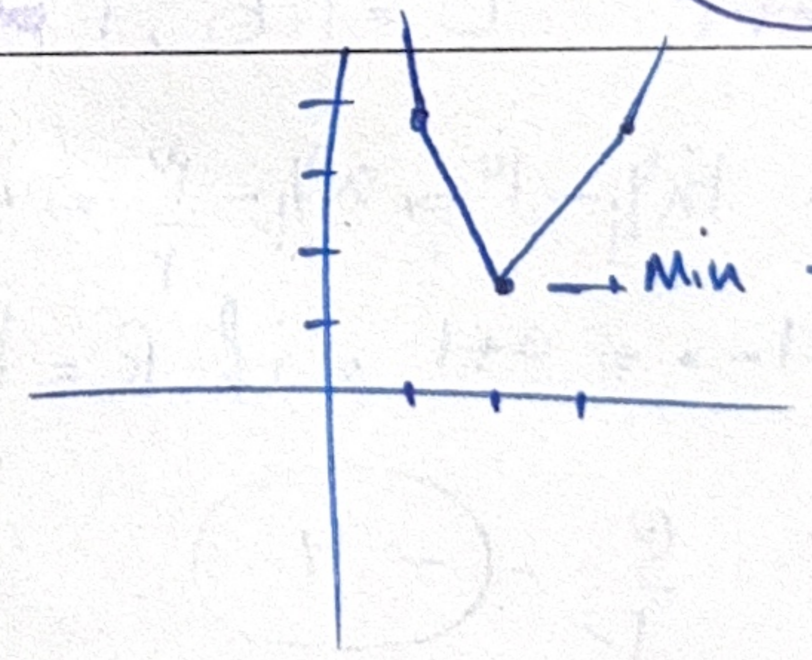
Min $\quad y=|x-1|+|x-3|+|2x-4|=$

$1 \quad 2 \quad 3$

$-4x+8 \quad (4) \quad -2x+6 \quad (2) \quad 2x-2 \quad (4) \quad 4x-8$

شکل نمودار $\longrightarrow$



$\to$ Min $=2$

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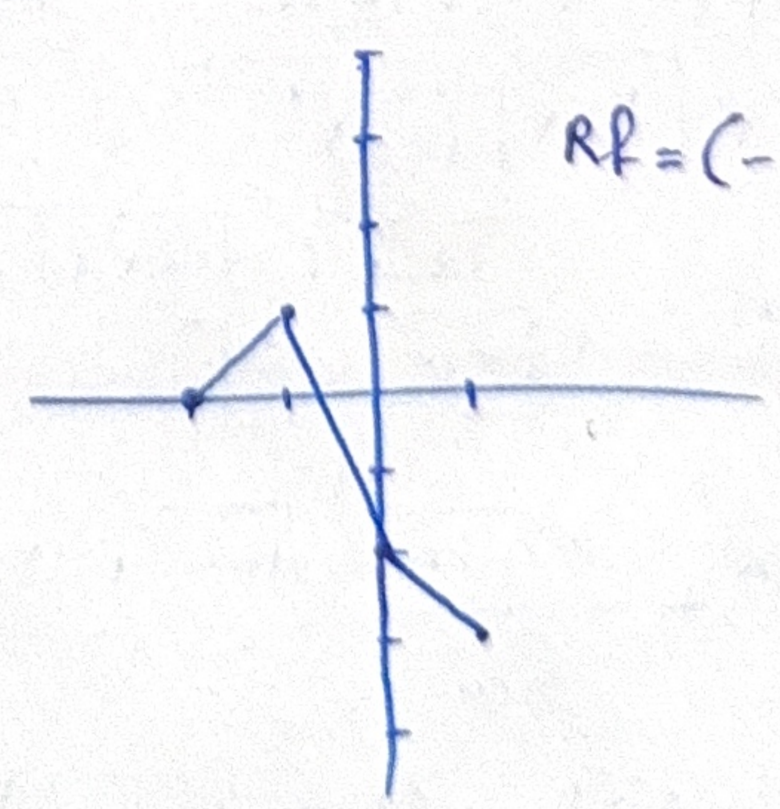
$y=|x|-2|x+1|$ برد

$-1 \quad 0$

$-x+2x+2 \quad\quad -x-2x-2 \quad\quad x-2x-2$

$x+2 \quad\quad -3x-2 \quad\quad -x-2$

$f(x)=\begin{cases}-x-2 & x>0\\ -3x-2 & -1<x\leq 0\\ x+2 & x\leq -1\end{cases}$



$R_f=(-\infty,1]$

if $x=-1 \to -1+2=1$

if $x=0 \to -3\times0-2=-2$

if $x=-2 \to -2+2=0$

if $x=1 \to -1-2=-3$

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$y = \frac{x^2+5x+m}{x+1}$ $\quad yx+y = x^2+5x+m \rightarrow x^2 + x(5-y) + m - y = 0$ (۳)

$x = -(5-y) \pm \sqrt{\underbrace{(5-y)^2 - 4(m-y)}_{\Delta}}$ $\quad \Delta \geq 0 \quad (5-y)^2 - 4m + 4y \geq 0$

$25 + y^2 - 10y - 4m + 4y \geq 0 \rightarrow y^2 - 6y + 25 - 4m \geq 0$ ۶

$\Delta \leq 0$ برد R ⟵

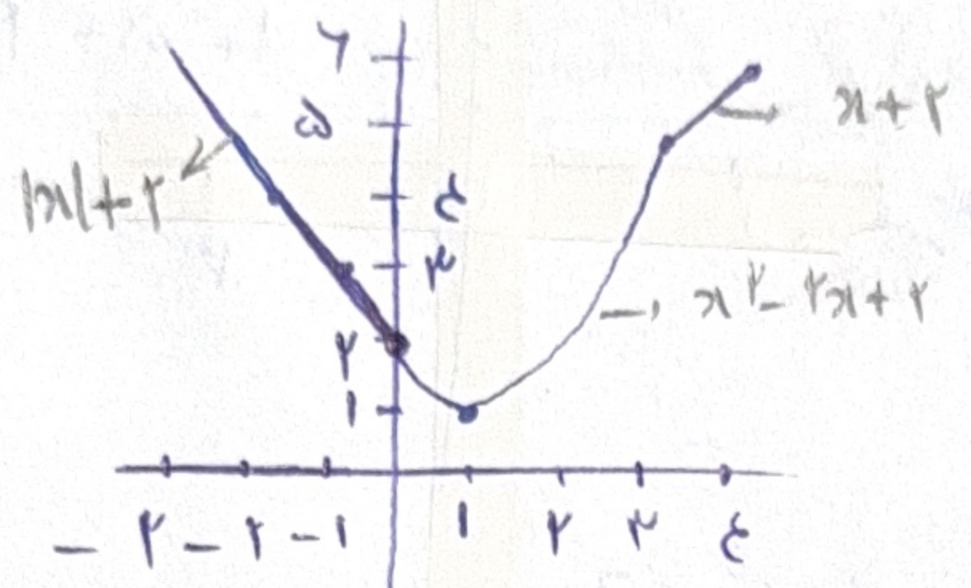
$\sqrt{36 - 4(25-4m)} \leq 0$

برد R باشد

$\sqrt{36 - 100 + 16m} \leq 0 \quad -64 + 16m \leq 0 \longrightarrow 16m \leq 64$

$m \leq 4 \longrightarrow$ if $m = 4 \Rightarrow \frac{(x+1)(x+4)}{(x+1)}$ $\quad m = \{1, 2, 3\}$ بین

$f(x) = \begin{cases} x+2 & ; x \geq 3 \\ x^2-2x+2 & ; 0 \leq x < 3 \\ |x|+2 & ; x < 0 \end{cases}$ (۳) ۷



$R_f = [1, +\infty)$

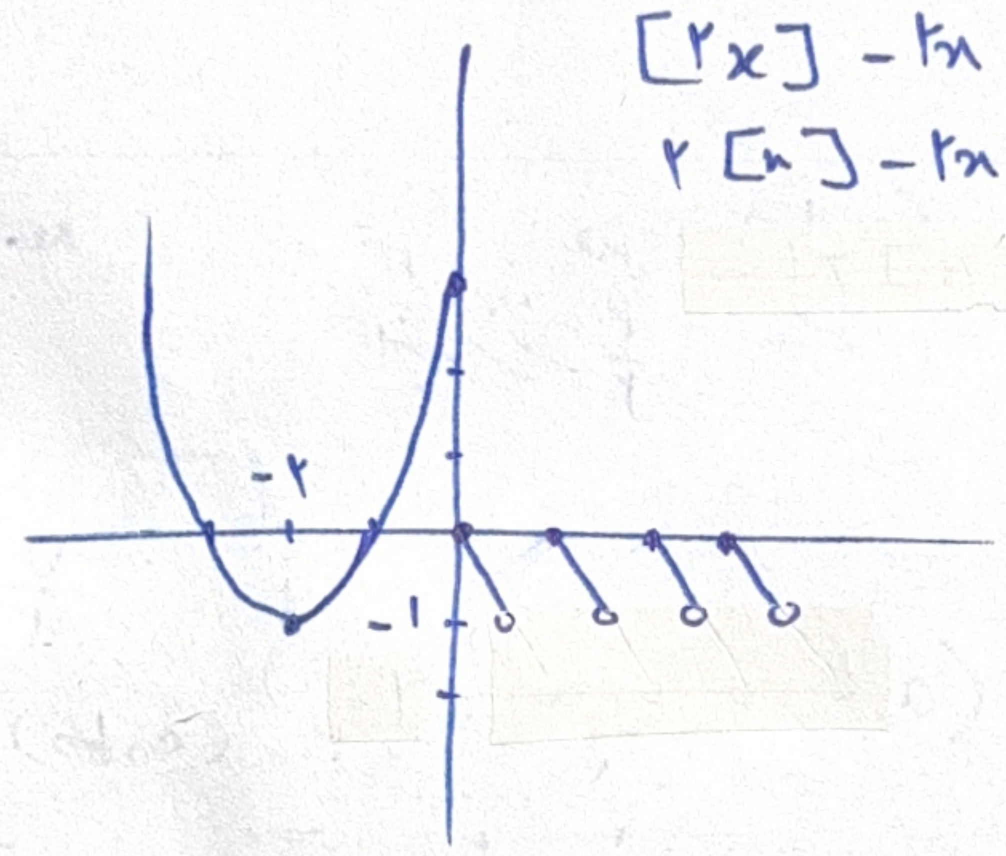
$x^2 - 2x + 2$

$S \begin{cases} x_s = \frac{2}{2} = 1 \\ y_s = 1 - 2 + 2 = 1 \end{cases}$ $\quad$ if $x = 3$ $\quad (3)^2 - 2 \times 3 + 2 = 9 - 6 + 2 = 5$

$f(x) = \begin{cases} x^2 + 4x + 3 & ; x \leq 0 \\ [2x] - 2x & ; x > 0 \end{cases}$

$[2x] - 2x$

$2[x] - 2x \longrightarrow R = (-1, 0]$ (۲)



$R_f = [-1, +\infty)$ ۸

$x^2 + 4x + 3$

$S \begin{cases} x_s = \frac{-4}{2} = -2 \\ y_s = 4 - 8 + 3 = -1 \end{cases}$

$y = a + 1 - \sqrt{2x+3} \quad D = [b, +\infty), \ R = (-\infty, 5]$

$D \rightarrow 2x + 3 \geq 0 \longrightarrow 2x \geq -3 \Rightarrow x \geq -\frac{3}{2} \Rightarrow$ if $D = [b, +\infty) \Rightarrow b = -\frac{3}{2}$

if $x = -\frac{3}{2} \Rightarrow y = a + 1 - 0 = a + 1$, if $R = (-\infty, 5]$ $\quad a + 1 = 5 \Rightarrow a = 4$ (۳) ۹

$ab = \cancel{4} \times -\frac{3}{\cancel{2}} = -6$

$f(x) = 2\sqrt{x+1} + 4\sqrt{1-x}$ $\quad f(x) + g(x) = 3\sqrt{2 + 2\sqrt{1-x^2}}$ $\quad D_f = D_g$

$f(x) + g(x) = 3\sqrt{\underbrace{2 + 2\sqrt{1-x^2}}_{\rightarrow (\sqrt{1-x} + \sqrt{1+x})^2}} =$ $\quad R_f \rightarrow y = \frac{f(x)}{2} - \frac{g(x)}{4}$

$y = \frac{f(x)}{2} - \frac{g(x)}{4} = \frac{2\sqrt{x+1} + 4\sqrt{1-x}}{2} - \frac{3\sqrt{1-x} + 3\sqrt{1+x} - 2\sqrt{x+1} - 4\sqrt{1-x}}{4} =$ (۳) ۱۰

$\frac{\cancel{\sqrt{x+1}} + 2\sqrt{1-x}}{4} + \frac{-3\sqrt{1-x} - \cancel{3\sqrt{1+x}} + \cancel{2\sqrt{x+1}} + 4\sqrt{1-x}}{4} = \frac{\cancel{3}\,4\sqrt{1-x}}{\cancel{4}} = \sqrt{1-x}$

$D_f \rightarrow x \geq -1, x \leq 1 \Rightarrow D_f = -1 \leq x \leq 1$

$\sqrt{1-x}$ $\quad$ Max $\rightarrow$ if $x = -1 = \sqrt{2}$ $\quad R_f = [0, \sqrt{2}]$

Min $\rightarrow$ if $x = 1 \Rightarrow 0$