نام و نام خانوادگی ......یکتا موسوی......... پاسخنامه تشریحی تکلیف شماره .... کلاس ......C......

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$2g = \{(-1,2)(0,8)(2,0)(1,4)\}$

$3f = \{(-1,0)(0,3)(2,\times)(1,0)\}$ $\Rightarrow 2g - 3f = \{(-1,2)(0,5)(1,4)\}$

$D_g \cap D_f = \{-1, 0, 1\}$ $\quad$ $R_f =$ ۲+۵+۴ = ۱۱ جمع

۳ $\quad$ ۱ ✓

$R_f \Rightarrow 2\times3-1=5 \Rightarrow [5,+\infty)$

$g(x) \to R_g = \frac{1}{3}\times3+3 = 4 \Rightarrow (-\infty, 4]$

$R_{g\cup f} \Rightarrow (-\infty,4]\cup[5,+\infty) = \mathbb{R}-(4,5)$

۳ $\quad$ ۲ ✓

$\frac{-x^2}{2}+x+3 > \frac{3}{2} \to \left(\frac{-x^2}{2}+x+\frac{3}{2}\right) > 0 \xrightarrow{\times 2} \left(-x^2+2x+3>0\right) \xrightarrow{\times -1} x^2-2x-3<0$

$x=3,\ x=-1$

+	-1	−	3	+

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

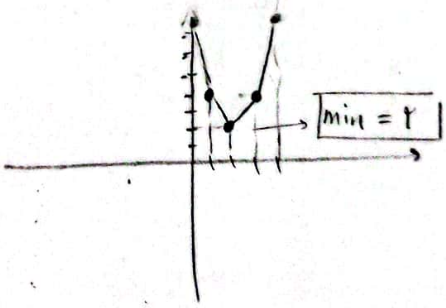
$\sqrt{b-a} = \sqrt{3-(-1)} = 2$

۳ $\quad$ ۳ ?

$x=1 \quad x=2 \quad x=3$

	1		2		3	
$-4x+8$		$-2x+6$		$2x-2$		$4x-8$
	(۴)		(۲)		(۴)	

$\min = 2$

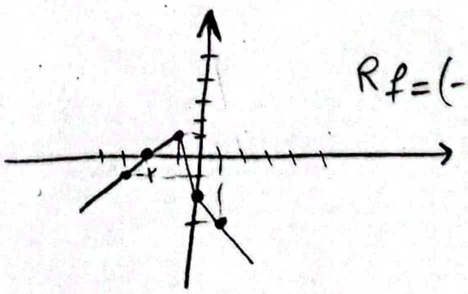


۳ $\quad$ ۴ ✓

$x=0 \quad x=-1$

	-1		0	
$x+2$		$-3x-2$		$-x-2$
	(۱)		(۲-)	

$R_f = (-\infty, 1]$



۳ $\quad$ ۵ ✓

$yx + y = x^2 + 5x + m$

$x^2 + (5-y)x + m - y = 0$

$x = \dfrac{y-5 \pm \sqrt{(5-y)^2 - 4(m-y)}}{2} \geq 0 \Rightarrow$

$(5-y)^2 - 4(m-y) \geq 0$

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

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

$\Delta < 0 \Rightarrow \begin{cases} 36 - 4(25 - 4m) < 0 \\ 36 - 100 + 16m < 0 \rightarrow 16m < 64 \rightarrow m < 4 \end{cases}$

$a > 0$ ✓

سه عدد $m = \{1, 2, 3\}$

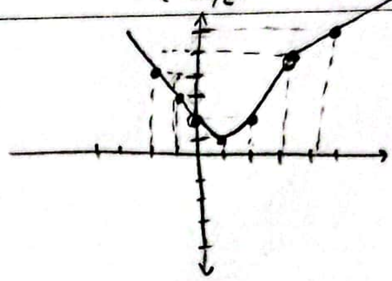
(۲)

$\begin{cases} x+2 \\ x^2 - 2x + 2 \\ |x| + 2 \end{cases}$

$x+2$: $\frac{x}{y}$: $\frac{3}{5}$, $\frac{4}{6}$

$x^2 - 2x + 2$: $\frac{0}{2}$, $\frac{1}{1}$, $\frac{2}{2}$, $\frac{3}{5}$

$|x| + 2$: $\frac{0}{2}$, $\frac{-1}{3}$, $\frac{-2}{4}$



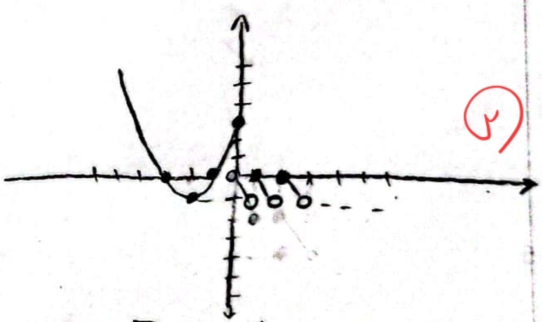
$R_f = [1, +\infty)$

(۲)

$\begin{cases} x^2 + 4x + 3 \\ [2x] - 2x \end{cases}$

$x^2 + 4x + 3$: $\frac{0}{3}$, $\frac{-1}{0}$, $\frac{-2}{-1}$, $\frac{-3}{0}$

$[2x] - 2x = [\square] - \square \leq 0$



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

(۲)

$2x + 3 \geq 0 \rightarrow 2x \geq -3 \rightarrow \underbrace{x \geq -\frac{3}{2}}_{D_f} \Rightarrow b = -\frac{3}{2}$

برای برد عدد [illegible] تعداد صفر سپس $\rightarrow a + 1 = 5 \rightarrow a = 4 \Rightarrow ab = 4 \times -\frac{3}{2} = -6$

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$x + 1 \geq 0 \rightarrow x \geq -1$

$-x \geq 0 \rightarrow x \leq 1 \rightarrow f(x)\ D_x = [-1, 1] \rightarrow f(1) = 2\sqrt{2} \quad f(-1) = 4\sqrt{2} \quad f(0) = 6$

$f(1) + g(1) = 3\sqrt{2 + 2\sqrt{1 - (1)^2}} \Rightarrow g(1) = 3\sqrt{2} - 2\sqrt{2} = \sqrt{2}$

$f(-1) + g(-1) = 3\sqrt{2 + 2\sqrt{1 - (-1)^2}} \rightarrow g(-1) = 3\sqrt{2} - 4\sqrt{2} = -\sqrt{2}$

$y(1) = \frac{2\sqrt{2}}{1} - \frac{\sqrt{2}}{3} \geq 0$

$y(-1) = \frac{4\sqrt{2}}{6} - \frac{\sqrt{2}}{3} = \sqrt{2}$ حاصل $\rightarrow$ $R_y = [0, \sqrt{2}]$

(۲)