۶- (۲)

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

$\Delta = (5-y)^2-4(m-y) = y^2-10y+25-4m+4y = y^2-6y+25-4m$

$y^2-6y+25-4m \xrightarrow[a>0]{\Delta<0} 36-4(25-4m)<0$

$x = \frac{y-5 \pm \sqrt{y^2-6y+25-4m}}{2}$

اگر زیر رادیکال همواره >0 باشد R

$36-100+16m<0$

$16m<64 \quad m<4$

$m = \{0,1,2,3\}$ (طبیعی)

۷- (۲)

$$f(x)\begin{cases} x+2 ; x\geq 2 & (1)\\ x^2-2x+2 ; 0\leq x<2 & (2)\\ |x|+2 ; x<0 & (3)\end{cases}$$

(1)

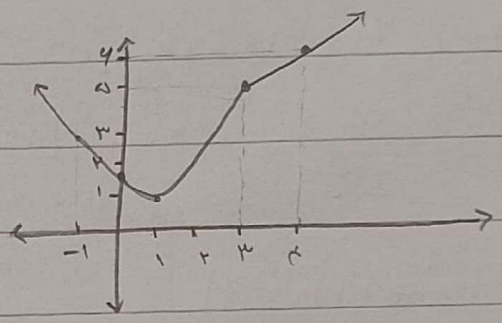
x	2	4
y	5	6

(2)

x	2	0
y	5	2

x	0	-1
y	2	3

ext: $\frac{-b}{2a} = \frac{2}{2} = 1$; $\frac{-\Delta}{4a} = 1$



$R_f = [1,+\infty)$

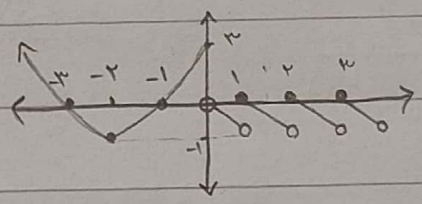
۸- (۲)

$x^2+4x+2 \rightarrow \frac{-b}{2a} = \frac{-4}{2} = -2 \quad y_{ext} = -1$

$(x+3)(x+1)$

ریشه‌ها $= -3, -1$

$R_f = (-1,0] \cup [-1,+\infty) \Rightarrow [-1,+\infty)$



۹- (۳)

$2x+2 \geq 0 \rightarrow x \geq \frac{-2}{2} \rightarrow b = \frac{-3}{2}$

y ماکزیمم $\rightarrow x = \frac{-3}{2}$

$\rightarrow a+1-\sqrt{2(-\frac{3}{2})+3} = 5 \quad ab = 4a(\frac{-3}{2}) = -6 \quad a+1 = 5 \quad \boxed{a=4}$

(صفر)

۱۰- (۲)

$x+1 \geq 0 \rightarrow x \geq -1 \quad x \in [-1,1]$

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

$f(1) = 2\sqrt{2}, f(-1) = 4\sqrt{2}, f(0) = 4$

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

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

$y(1) = \frac{2\sqrt{2}}{4} - \frac{\sqrt{2}}{3} = 0$

$y(-1) = \frac{4\sqrt{2}}{4} - \frac{-\sqrt{2}}{3} = \frac{4\sqrt{2}}{4} = \sqrt{2} \qquad R_f = [0,\sqrt{2}]$

موضوع: .... تاریخ: / /

حسام ۱

۲۰

ستایش صفر «یازدهم دهم ج» «تکلیف ۸»

۱- $g(x) = \{(-1,1),(0,4),(2,0),(1,2)\}$ $f(x) = \sqrt{1-x^2} + x^3$ ($-1 \le x \le 1$)

$D_g \cap f = \{-1, 0, 1\}$ $2g - 3f = ?$ مجموع اعضای برد تابع

$3f = \{(-1,0),(0,3),(1,0)\}$ $2g = \{(-1,2),(0,8),(2,0),(1,4)\}$

۲

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

$2+5+4 = 11$ مجموع اعضا برد

۲-

$f(x) = 2x - 1 \to D_f = [3, +\infty) \to R_f = [5, +\infty)$ ۴

$g(x) = \frac{1}{3}x + 3 \to D_g = (-\infty, 3] \to R_f = (-\infty, 4]$

$R_f \cup R_g = (-\infty, 4] \cup [5, +\infty)$

۳- ۴

$-x^2 + 2x + 6 > 3$ $-x^2 + 2x + 3 > 0$

$x^2 - 2x - 3 < 0$

x		-1		3	
	$-$	0	$+$	0	$-$

$(x-3)(x+1) < 0$ $(-1, 3) \to \begin{cases} a = -1 \\ b = 3 \end{cases}$

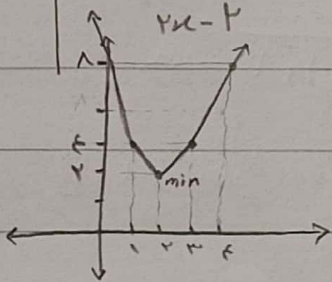
$\sqrt{b-a} = \sqrt{3-(-1)} = 2$

۴-

$x<1$	$1 \le x < 2$	$2 \le x < 3$	$x \ge 3$
$-x+1-x+3-2x+4$ $-4x+8$	$x-1-x+3-2x+4$ $-2x+6$	$x-1-x+3+2x-4$ $2x-2$	$x-1+x-3+2x-4$ $4x-8$

۴

x	0	1	2	3	4
y	8	4	2	4	8



$min = 2$

۵-

$x<-1$	$-1 \le x < 0$	$x \ge 0$
$-x+2x+2$ $x+2$	$-x-2x-2$ $-3x-2$	$x-2x-2$ $-x-2$

$R_f = (-\infty, 1]$ ۲

x	-2	-1	0	1
y	0	1	-2	-3