نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ..... کلاس .....

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$D_f \cap D_g = \{-1, 1\}$

$g_{(-1)} = 1 \quad f_{(-1)} = 0 \quad 2g_{(-1)} - 3f_{(-1)} = 2$

$g_{(1)} = 2 \quad f_{(1)} = 0 \quad 2g_{(1)} - 3f_{(1)} = 4$

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

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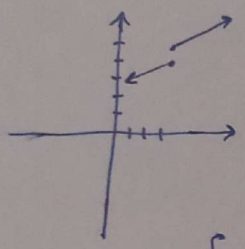

$R = \mathbb{R} - (4, 5)$

$f_{(3)} = 5 \quad g_{(3)} = 4$

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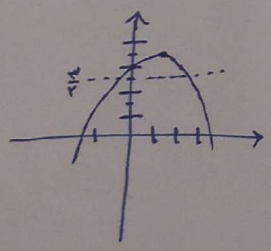
$y = -\frac{x^2}{2} + x + 3$

$x = \frac{\pm\sqrt{9} - 1}{-1} = \sqrt{9} + 1 \;/\; 1 - \sqrt{9}$

$S\left(\frac{1}{\frac{9}{2}}\right)$



$\frac{3}{2} = -\frac{x^2}{2} + x + 3$

$x = -1, 3 \Longrightarrow \sqrt{10 - a}$ بیشترین مقدار $= \sqrt{3 - (-1)} = \sqrt{4} = +2 \Rightarrow \boxed{+2}$

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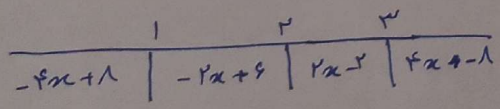

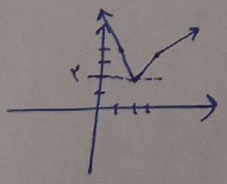

$x = 1 \Rightarrow y = 5$

$x = 3 \Rightarrow y = 4$

$x = 2 \Rightarrow \boxed{y = 2}$

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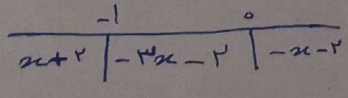

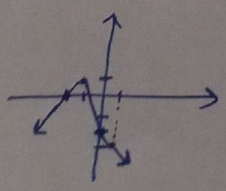

$R = (-\infty, 1]$

$$\frac{x^2+ax+m}{x+1} = x+1^2+\frac{m-1^2}{x+1}$$

$$y = x+1+1^2+\frac{m-1^2}{x+1} \Rightarrow_{t=x+1} \quad y = t+1^2+\frac{m-1^2}{t}$$

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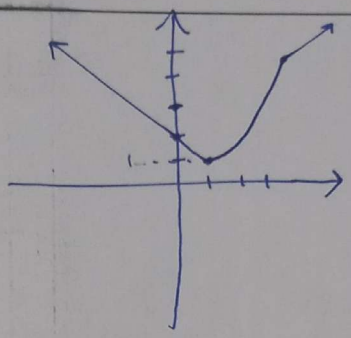
$$f(x)\begin{cases} x+2 & x \geq 3 \\ x^2-2x+2 & 0 \leq x < 3 \\ |x|+2 & \end{cases}$$



$R = [1, +\infty)$

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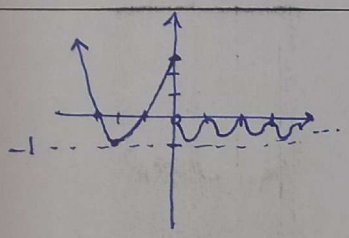
$$y = x^2+4x+3$$

$$y = [2x]-2x$$

$$-1 < [2x]-2x \leq 0$$



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

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$$2x+3 \geq 0$$

$$x \geq -\frac{3}{2} \Rightarrow b = -\frac{3}{2}$$

$$a = a+1-\underbrace{\sqrt{2x-\frac{3}{2}+3}}_{0} \Rightarrow a = 3$$

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

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

$$x=1 \longrightarrow \frac{2\sqrt{2}-2\sqrt{2}}{2} = 0$$

$$x=-1 \longrightarrow \frac{4\sqrt{2}-2\sqrt{2}}{2} = \sqrt{2}$$

$$\Rightarrow \boxed{R = [0, \sqrt{2}]}$$

$$D_f = D_g = [-1, 1]$$

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