

کلاس یازدهم: A

استاد: یاسنا کمالی شاد

نام و نام خانوادگی: علی ربان

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

$$2g - f = ?$$

-1

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

$$(-1, 2-0)(0, 1-4)(1, 0-0) =$$

$$f(x) = (-1, 0)(0, 1)(1, 0)$$

$$2g - f = \{(-1, 2)(0, 5)(1, 4)\} \quad 2+5+4 = 11$$

$$f(x) = \sqrt{1-x^2} \Rightarrow R_f = [0, 1]$$

$$g(x) = \frac{1}{x} x^2 \Rightarrow R_g = (-\infty, 4]$$

-2

$$D_f = [0, 1]$$

$$D_g = (-\infty, 4]$$

$$R_f \cup R_g = (-\infty, 4] \cup [0, 1]$$

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

(a, b)

-3

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

$$\sqrt{b-a} = \sqrt{2-1} = \sqrt{1} = 1$$

$$(x+1)(x-2) < 0$$

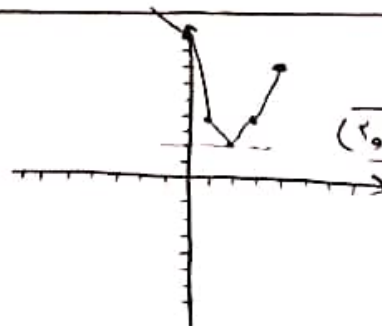
$$\begin{array}{c|c|c} -1 & 2 & \\ \hline + & - & + \end{array} \quad (-1, 2)$$

$$y = |x-1| + |x-2| + |x-3|$$

$$x=1 \Rightarrow y=4$$

$$x=2 \Rightarrow y=4$$

$$x=3 \Rightarrow y=2$$



(2, 2) = min $\rightarrow y=2$ کسب مقدار

-4

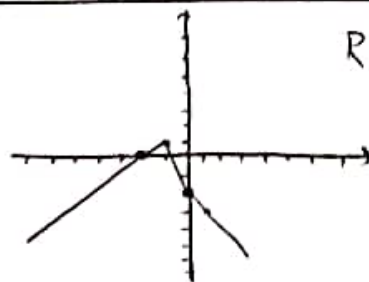
$$y = |x-2| + |x+1|$$

$$R_f = (-\infty, 1]$$

-5

$$x=0 \Rightarrow y=2$$

$$x=-1 \Rightarrow y=1$$



$$y = \frac{x^2 + dx + m}{x+1}$$

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

$$x^2 + dx - yx + m - y = 0$$

-6

$$x \neq -1$$

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

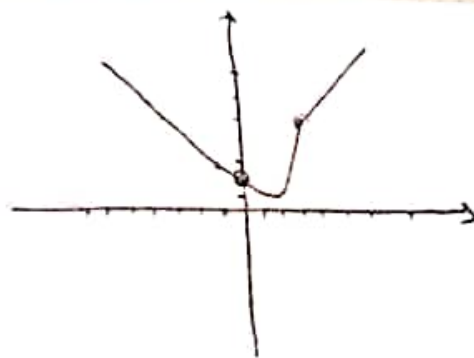
$$x = \frac{-(d-y) \pm \sqrt{(d-y)^2 - 4(m-y)}}{2} \Rightarrow -1 \neq \frac{y-d \pm \sqrt{y^2 - 2y - 4m}}{2} \Rightarrow y-d \pm \sqrt{y^2 - 2y - 4m} \neq -2$$

$$(\sqrt{y^2 - 2y - 4m})^2 \neq (-y+2)^2 \Rightarrow y^2 - 2y - 4m \neq y^2 - 4y + 4 \Rightarrow 2d - 4m \neq 4 \Rightarrow m \neq \frac{d-2}{2}$$

$$(d-y)^2 \geq 4m - 4y \Rightarrow y^2 - 10y + 25 \geq 4m - 4y \Rightarrow y^2 - 6y + 25 \geq 4m \Rightarrow \left| \frac{y}{2} \right| \leq \frac{1}{2} \Rightarrow \begin{cases} 1 \geq m \\ 1 \leq m \end{cases}$$

$$\{1, 2\} = m \text{ اعداد طبیعی} \Leftarrow m = (-\infty, 4) \text{ رقیب}$$

$$f(x) = \begin{cases} x+1 & : x \geq 1 \\ x^2 & : -1 \leq x < 1 \\ |x| & : x < -1 \end{cases} \xrightarrow{\min} \begin{cases} 0 \\ 1 \\ 1 \end{cases}$$



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

$$f(x) = \begin{cases} x^2 + x + 1 & : x \leq 0 \\ [x] \cdot x & : x > 0 \end{cases} \xrightarrow{x=0 \Rightarrow y=1}$$

$$x \geq [x] \cdot x > -1$$

$$\min \left| \frac{x}{x} = -1 \right|$$



$$R_0 = [-1, +\infty)$$

$$R_{\text{total}} = (-1, 0) \cup R_0 = [-1, +\infty)$$

$$y = a + 1 - \sqrt{x^2 + 1} \xrightarrow{x \geq -1} x \geq \frac{a}{2} \quad a, b = \frac{a}{2} - \frac{a}{2} = -1$$

$$D_f = [b, +\infty) \Rightarrow b = -\frac{a}{2}$$

$$a + 1 - \sqrt{x^2 + 1} \leq 0$$

$$R_f = (-\infty, 0]$$

$$a - \sqrt{x^2 + 1} \leq 0$$

$$x \geq 0 \downarrow$$

$$-\frac{a}{2} \Rightarrow a - 0 \leq 0 \quad a = 0$$

$$f(x) = \sqrt{x+1} + \sqrt{1-x}$$

$$f(x) + g(x) - f(x) = g(x)$$

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

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

$$D_f = D_g \Rightarrow D_f = \left\{ \begin{array}{l} \sqrt{x+1} \Rightarrow -1 \leq x \rightarrow x+1 \geq 0 \quad x \geq -1 \\ \sqrt{1-x} \Rightarrow x \leq 1 \rightarrow 1-x \geq 0 \quad x \leq 1 \end{array} \right\} \rightarrow D_f = [-1, 1]$$

$$\sqrt{x+1} + \sqrt{1-x} - \sqrt{x+1} - \sqrt{1-x}$$

$$\sqrt{x+1} + \sqrt{1-x} - \sqrt{x+1} - \sqrt{1-x} = \sqrt{x+1} + \sqrt{1-x} - \sqrt{x+1} - \sqrt{1-x} = 0$$

$$\frac{f(x)}{g} - \frac{g(x)}{x} =$$

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

$$\frac{f(x) - g(x)}{g} = \frac{\sqrt{x+1} + \sqrt{1-x} - \sqrt{x+1} + \sqrt{1-x}}{g} = \frac{2\sqrt{1-x}}{g} = \sqrt{1-x} \quad \sqrt{1-x} \Rightarrow -1 \leq x \leq 1$$

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