

17/10

11A

پاسخنامه تشریحی تکلیف شماره ... کلاس ...

علی عباسی

نام و نام خانوادگی

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

$$f = \{(-1, 0), (0, 1), (1, 3), (1, 0)\} \rightarrow 3f = \{(-1, 0), (0, 3), (1, 0)\}$$

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

1, 10

$$f(x) = 2x - 1 \Rightarrow \frac{x}{y} \left| \frac{2}{5} \right| \frac{4}{1} \frac{5}{9} \rightarrow R_f = [5, +\infty)$$

$$g(x) = \frac{1}{2}x + 2 \Rightarrow \frac{x}{y} \left| \frac{1}{2} \right| \frac{2}{1} \frac{3}{4} \rightarrow R_g = (-\infty, 4]$$

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

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$$y = \frac{-x^2 + 2x + 4}{2} \Rightarrow y_{\max} = 1 \rightarrow R_{\text{فصلی}} = (-\infty, \frac{1}{2}]$$

$$\rightarrow R = (\frac{1}{2}, \frac{5}{2}] \rightarrow R = (\frac{1}{2}, \frac{5}{2}) \rightarrow a = \frac{1}{2}, b = \frac{5}{2}$$

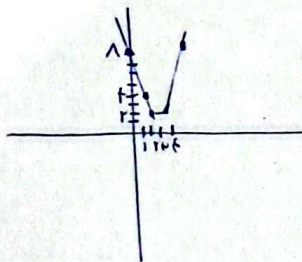
$$\rightarrow \sqrt{b-a} = \sqrt{\frac{5}{2} - \frac{1}{2}} = \sqrt{\frac{4}{2}} = \sqrt{2} = \frac{2}{\sqrt{2}} = \frac{2\sqrt{2}}{2} = \sqrt{2}$$

$$\begin{aligned} -\frac{x^2}{2} + x + 2 &> \frac{1}{2}x + 2 \\ x^2 - 2x - 4 &< 0 \\ -ka < k < 3 \end{aligned}$$

3

از راه نقطه دادن به عبارت آن را روی محور رسم می‌کنیم:

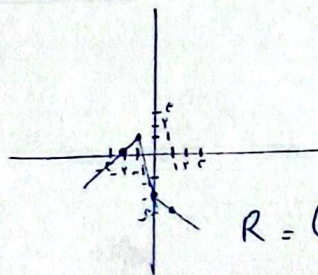
x	0	1	2	3	4
y	2	1	0	1	2



طبق نمودار کمترین مقدار برای y های 2 است

4

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



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

5

$$y = \frac{x^2 + \delta x + m}{x+1} \rightarrow x \neq -1 \rightarrow yx + y = x^2 + \delta x + m \rightarrow 0 = x^2 + x(\delta - y) + m - y$$

$$\rightarrow \Delta < 0 \text{ (معتبر من خواص R بدست آید)} \Rightarrow (\delta - y)^2 - 4(m - y) < 0 \rightarrow \delta^2 + y^2 - 10y - 4m + 4y < 0$$

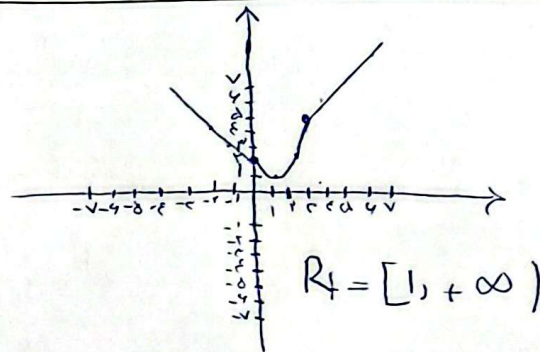
$$\rightarrow y^2 - 4y + \delta^2 - 4m < 0 \xrightarrow{\Delta y < 0} 3y - 4 - f(10 - 4m) < 0 \rightarrow 3y - 10 + 4m < 0 \quad (5)$$

$$\rightarrow 4m < 4 - 3y \rightarrow m < 1 - \frac{3}{4}y \rightarrow (-\infty, 1 - \frac{3}{4}y) \rightarrow \{1, 2, 3\} \Rightarrow \text{معتبر}$$

$$x + 2 \quad x \geq 0 \rightarrow \begin{array}{c|c|c|c|c} x & y & \delta & \epsilon & A \\ \hline 1 & 1 & 1 & 1 & 1 \end{array}$$

$$x^2 - 2x + 2 \rightarrow \begin{array}{c|c|c|c|c} x & y & \delta & \epsilon & A \\ \hline 1 & 1 & 1 & 1 & 1 \end{array}$$

$$|x| + 2 \rightarrow \begin{array}{c|c|c|c|c} x & y & \delta & \epsilon & A \\ \hline 1 & 1 & 1 & 1 & 1 \end{array}$$



$$x^2 + 2x + 3 \quad x \leq 0 \quad (\Delta = 4) \rightarrow x = \frac{-2 \pm 2}{2} \Rightarrow R = [-1, +\infty)$$

$$[2x] - 2x \quad x \geq 0 \quad -1 < [2x] - 2x \leq 0 \rightarrow [-1, 0] \quad \left\{ \begin{array}{l} \rightarrow R_f = (-1, 0] \cup [-1, +\infty) \\ = [-1, +\infty) \end{array} \right. \quad (5)$$

$$1x + 3 > 0 \rightarrow 2x > -3 \rightarrow x > -\frac{3}{2} \rightarrow D = [-\frac{3}{2}, +\infty) \rightarrow b = -\frac{3}{2}$$

$$x = \frac{5}{2}y = a + 1 - \sqrt{0} \Rightarrow y = a + 1 = 2 \Rightarrow (a = 1)$$

$$ab = f_x = \frac{3}{2} = (-9)$$

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

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

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

$$\rightarrow \frac{f(x)}{y} - \frac{g(x)}{c} = \frac{\sqrt{(x+1) + 2\sqrt{1-x}}}{\sqrt{4}} - \frac{\sqrt{x+1} - \sqrt{1-x}}{\sqrt{2}} = \frac{\sqrt{1-x}}{\sqrt{2}} \rightarrow D = (-\infty, 1] \rightarrow R = [0, +\infty)$$

