

نام و نام خانوادگی شماره کلاس پاسخنامه تشریحی تکلیف شماره

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

$$2 + 3 + 4 = 9$$

$$f = \{(-1, 0), (0, 1), (1, 2), (2, 3)\} \rightarrow 3f = \{(-1, 0), (0, 3), (1, 0), (2, 3)\}$$

در این سوال
اولی
دوم
سوم
چهارم
پنجم
ششم
هفتم
هشتم
نهم
دهم
یازدهم
چهاردهم
پنجاهم

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

$$f(x) = x^3 - 1 \quad D = [1, +\infty) \quad R_{f(x)} = [0, +\infty)$$

$$g(x) = \frac{1}{x}x + 3 \quad D = (-\infty, 3] \quad R_{g(x)} = (-\infty, 4]$$

$$[0, +\infty) \cup (-\infty, 4]$$

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

سهمی در این سوال از 3 بزرگتر است سهمی برای پیدا کردن a, b باید حتماً سهمی 3 را پیدا کنیم

$$\frac{-x^2}{x} + x + 3 - \frac{3}{x} = 0 \rightarrow \frac{-x^2}{x} + x + \frac{3}{x} = 0 \quad \Delta = 1 - 4 \left(\frac{-1}{x} \right) \left(\frac{3}{x} \right) \rightarrow 1 + \frac{12}{x^2} = 0$$

$$\frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-1 \pm 2}{-1} \rightarrow \frac{-1+2}{-1} = -1 \quad (a, b) = (-1, 3) \rightarrow a = -1, b = 3$$

$$b - a = 3 - (-1) = 4$$

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

$$x=1 \rightarrow 0 + 1 + 2 = 3$$

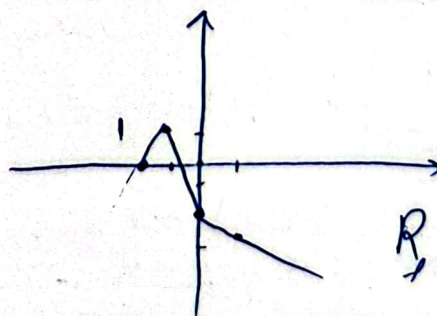
$$x=2 \rightarrow 1 + 0 + 1 = 2$$

$$x=3 \rightarrow 2 + 1 + 0 = 3$$

$$x=1 \rightarrow 0 + 1 + 2 = 3$$

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

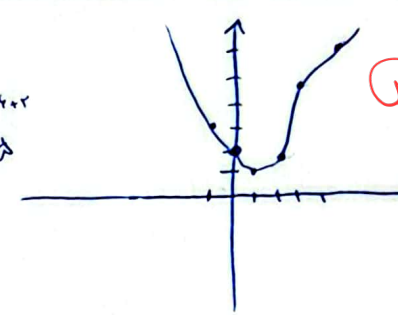
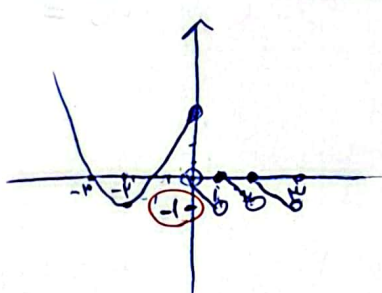
$$y = |x| - 2|x+1|$$



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

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$y = \frac{x^2 + dx + m}{x+1} \Rightarrow yx + y = x^2 + dx + m \Rightarrow x^2 + d(x+1) - y(x+1) - y = 0$ $x^2 + x(d-y) + m-y = 0 \xrightarrow{\Delta \geq 0} \frac{-(d-y) \pm \sqrt{(d-y)^2 - 4(m-y)}}{2}$ $\Delta \geq 0 \Rightarrow m \leq \frac{(d-y)^2}{4} + y$ $x^2 - 4y + 2d - 4m = 0$ $4m + y \leq 4y + 2d - 4m + 4y$	6
$x+1 \quad x \geq 1 \Rightarrow \begin{matrix} x \geq 1+1 \\ \varepsilon \rightarrow \varepsilon+1 \end{matrix}$ $x^2 - x + 1 \quad 0 \leq x < 1$ $x+1 \quad x < 0 \Rightarrow \begin{matrix} 0 \rightarrow 1 \\ -1 \rightarrow 2 \end{matrix}$ $R_f = [1, +\infty)$ 	7
$x^2 + \varepsilon x + 1 \quad x \leq 0 \quad 0 \rightarrow 1, -1 \rightarrow 0$ $\frac{-b}{2a} = \frac{-\varepsilon}{2} = (-1, -1)$ $[x_n] - p_n \quad (n > 0)$ $0 \rightarrow 0$ $1 \rightarrow 1-1=0 \quad 2 \rightarrow 4-4=0$ $3 \rightarrow 9-9=0$ $R_p = [-1, +\infty)$ 	8
$x^2 + 3 > 0 \xrightarrow{b+\varepsilon} x^2 + 3 = 0 \rightarrow x = -\frac{3}{x} \rightarrow b = \frac{3}{x}$ $y = a+1 = 0 \Rightarrow a = -1$ $y = a+1 \Rightarrow a+1 = a \Rightarrow a = \varepsilon$ $ab = \frac{3}{x} \cdot \frac{1}{x} = \frac{3}{x^2}$	9
$f(x) = \sqrt{1-x^2} \quad g(x) = \sqrt{1-x^2}$ $\sqrt{1-x^2} \xrightarrow{\text{مشتق}} \frac{1}{2\sqrt{1-x^2}} \cdot (-2x) = \frac{-x}{\sqrt{1-x^2}}$ $g(x) = \sqrt{1-x^2} \quad f(x) = \sqrt{1-x^2}$ $\frac{f(x)}{g(x)} = \frac{\sqrt{1-x^2}}{\sqrt{1-x^2}} = 1$ $R = [0, \sqrt{1-x^2}]$	10