

فنا هم دارم واه (سوال ۱) ۱۹, ۲۰

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

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

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

۲+۰+۴=۱۱

$$f(x) = 2x^2 - 1 \quad b = [10, +\infty) \quad R = [4, +\infty)$$

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

سوال ۲ ۱, ۷۵

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

سوال ۳) همه دره و ط از ۳ بزرگتر است پس برای پیدا کردن همه با خطی

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

۱, ۵

$$\frac{1}{2}x^2 - x + \frac{3}{2} = \frac{3}{2}$$

$$-\frac{x^2}{2} + x + 3 - \frac{3}{2} = 0 \rightarrow -\frac{x^2}{2} + x + \frac{3}{2} = 0 \quad \sqrt{b^2 - 4ac} = 2$$

$$\Delta = 1 - 4 \left(-\frac{1}{2}\right) \left(\frac{3}{2}\right) = 1 - 4 \left(-\frac{3}{4}\right) = 1 + 3 = 4$$

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

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

$$g = |x-1| + |x-3| + |2x-4|$$

$$x=1 \rightarrow 0 + 2 + 2 = 4$$

$$x=3 \rightarrow 2 + 0 + 2 = 4$$

$$2x-4 = 0 \quad 2x = 4 \rightarrow x = 2 \rightarrow 1 + 1 + 0 = 2$$

کمترین ۲

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

$$\begin{vmatrix} 1 & -2 & -1 & -1 \\ -2 & 1 & -1 & -1 \\ 1 & -2 & 1 & 0 \end{vmatrix}$$



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

$$y = \frac{x^2 + ax + m}{x+1} \Rightarrow yx + y = x^2 + ym + m \Rightarrow x^2 + (a-y)x + m-y = 0$$

$$x^2 + x(a-y) + m-y = 0 \rightarrow -(a-y) \pm \sqrt{(a-y)^2 - 4(m-y)}$$

$$\Delta < 0 \rightarrow m < \frac{1}{4}$$

$$2y^2 - 4y + 1(a-y) - 4m > 0$$

$$2a + y^2 - 4y - 4m + y > 0$$

$$x+1 \quad x \geq 1 \Rightarrow 1 \Rightarrow x+1 \quad x \rightarrow x+1$$

$$x^2 - 2x + 1 \quad 0 \leq x < 1 \quad 1 \rightarrow 1 \rightarrow 1 \rightarrow 1$$

$$|x|+1 \quad x < 0$$

$$0 \rightarrow 1$$

$$0 \rightarrow 1 \rightarrow 1$$

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

$$x^2 + 1 \quad x \leq 0 \quad 0 \rightarrow 1 \rightarrow 1$$

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

$$[1, x] - 2x \quad x > 0$$

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

$$0 \rightarrow 0$$

$$1 \rightarrow 1 - 1 = 0$$

$$1 \rightarrow 1 - 1 = 0$$

$$2x + 1 > 0 \rightarrow 2x + 1 = 0 \Rightarrow x = -\frac{1}{2}$$

$$y = a+1 = 0$$

$$a = \frac{1}{2}x = -\frac{1}{2}$$

$$y = a+1 \Rightarrow a+1 = 0 \Rightarrow a = -1$$

$$\frac{1}{\sqrt{1+x} + \sqrt{1-x}} \rightarrow \frac{1}{2} (1 + \sqrt{1-x^2}) \rightarrow \frac{1}{2} (1 + \sqrt{1-x^2})$$

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

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

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

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

$$R = [0, \infty)$$