

فاطمه دارقواہ

((بہ خدا))

سوال (1)

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

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

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

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

$$2+0+0=11$$

سوال (2)

$$f(x) = 2x^2 - 1 \quad \frac{b=[10, +\infty)}{\text{مندی نام}} \quad R = [4, +\infty)$$

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

سوال (3) مجموع درجه و ط از $\frac{1}{2}$ بزرگتر است پس برای پیدا کردن جواب با مطلق

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

که مجموع مطلق پیدا کنیم

$$-\frac{x^2}{2} + x + 3 - \frac{1}{2} = 0 \rightarrow -\frac{x^2}{2} + x + \frac{5}{2} = 0$$

$$\Delta = 1 - 4 \left(-\frac{1}{2}\right) \left(\frac{5}{2}\right)$$

$$\frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-1 \pm 2}{-1} \left\{ \begin{array}{l} \frac{-1+2}{-1} = -1 \\ \frac{-1-2}{-1} = 3 \end{array} \right.$$

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

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

سوال (4)

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

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

$$2x-4=0 \quad 2x=4 \rightarrow x=2 \rightarrow 1+1+0=2 \text{ کمترین}$$

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

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



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

(سوال 8)

(سوال 9)

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

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

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

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

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

$$x+1 \quad x \geq 1 \Rightarrow 1 \Rightarrow x+1 \quad x \rightarrow x^2 + 1$$

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

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

$$0 \rightarrow 1$$

$$0 \rightarrow 1 \rightarrow 1 \rightarrow 1$$

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

(سوال 11)

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

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

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

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

$$0 \rightarrow 0$$

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

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

$$1x + 1 \geq 0 \rightarrow 1x + 1 = 0 \Rightarrow x = -1 = b$$

$$y = a + 1 = 0$$

$$a = b = x = -1$$

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

(سوال 10)

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

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

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

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

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

$$\frac{f(x)}{c} - g(x) = \frac{1}{\sqrt{1-x}} + \frac{1}{\sqrt{1-x}} - \frac{1}{\sqrt{1-x}} - \frac{1}{\sqrt{1-x}} = 0$$

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