

Subject:

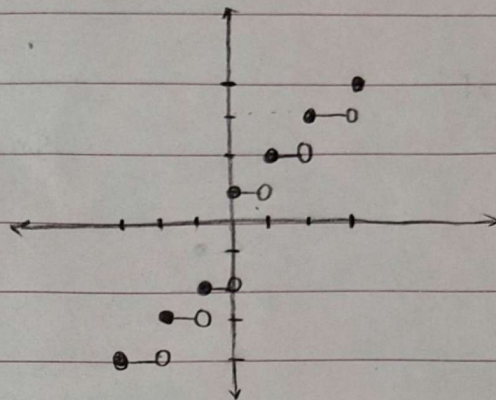
آینا لکریسم زاده - دوازدهم ریاضی - تطبیق

Date:

$$a) f(x) = 2 \sin^2\left(x + \frac{\pi}{2}\right) - 1 \quad \begin{array}{l} \frac{-b}{2a} = \sin = 0 \\ \sin = 1 \end{array} \quad \begin{array}{l} f(x) = -1 \\ f(x) = 2 \cdot 1 = 1 \end{array} \quad \Rightarrow R_f = [-1, 1] \quad \text{سوال (1)}$$

$$b) g(x) = 2 \cos^2 x - 7 \quad \begin{array}{l} \cos = 1 \\ \cos = -1 \end{array} \quad \begin{array}{l} g(x) = 2 \cdot 1 - 7 = -5 \\ g(x) = 2 \cdot 1 - 7 = -5 \end{array} \quad \Rightarrow R_g = [-5, -1] \quad \text{سوال (2)}$$

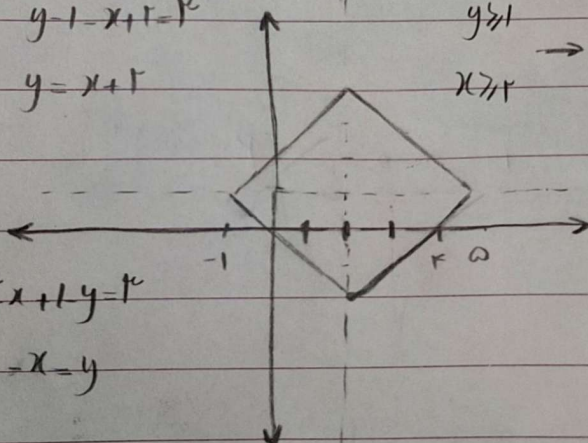
$$\frac{x}{|x|} + [x] \quad [2, 3] \text{ و } [1, 2] \quad \begin{array}{l} 2 \geq x \geq 0 \\ 0 \geq x \geq -2 \end{array} \quad \begin{array}{l} [x] + 1 \\ [x] - 1 \end{array}$$



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

$$\begin{array}{l} y \geq 1 \\ x \leq 2 \end{array} \Rightarrow y - 1 - x + 2 = 2 \Rightarrow y = x + 1$$

$$\begin{array}{l} y \geq 1 \\ x \geq 2 \end{array} \Rightarrow x - 2 + y - 1 = 2 \Rightarrow y = x + 5$$

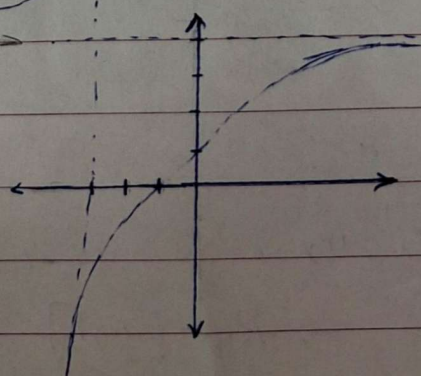


$$\begin{array}{l} x \leq 2 \\ y \leq 1 \end{array} \Rightarrow 2 - x + 1 - y = 2 \Rightarrow x + y = 1$$

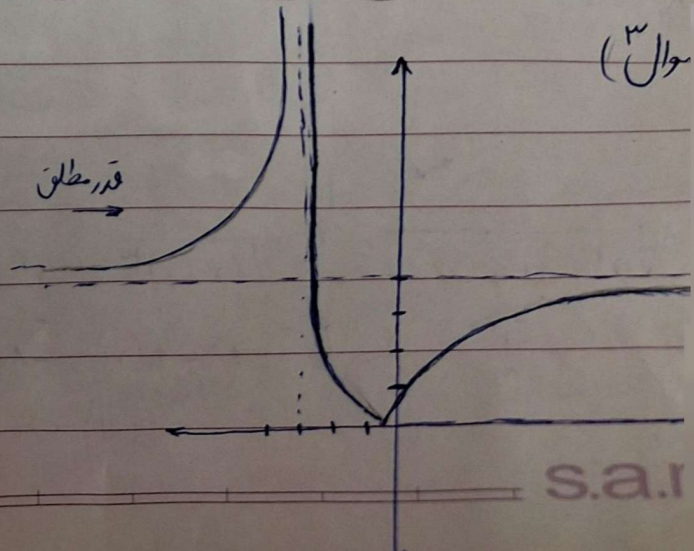
$$\begin{array}{l} x \geq 2 \\ y \geq 1 \end{array} \Rightarrow x - 2 + y - 1 = 2 \Rightarrow x + y = 5$$

$$y = \left| \frac{x+1}{x+2} \right|$$

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



فرد، مطلق



s.a.i

Subject:

$$r < x + \frac{1}{x} < +\infty$$

الف) $f(x) = x + \frac{1}{x} + 2\sqrt{x + \frac{1}{x}}$ سوال ۱

$$R_f = [r + 2\sqrt{r}, +\infty)$$

$$y = (r - \sin x)(1 + \sin x) = -\sin^2 x + r \sin x + r$$

$$\sin = 1 \rightarrow -1 + r + r = F$$

$$\sin = -1 \rightarrow -1 - r + r = 0$$

$$R_y = [0, F]$$

$$\sin = \frac{-b}{r} = \frac{-r}{r} = -1 \rightarrow F$$

$$f(x) = -\frac{1}{x}x + 10 \rightarrow \text{در } x=1 \text{ ع } = -\frac{1}{x}(1+r+r+1) + 10x = -10 + 10 = 0 \quad \text{سوال ۲}$$

$$f(x) = \sqrt{ax^r + bx + c} \rightarrow a=0 \rightarrow f(x) = \sqrt{bx+c} \quad \begin{cases} x=r \rightarrow \sqrt{rb+c}=0 \rightarrow rb+c=0 \\ x=r \rightarrow \sqrt{rb+c}=1 \rightarrow rb+c=1 \end{cases} \quad \text{سوال ۳}$$

$$g(x) = \sqrt{bx^r + ax + c} = \sqrt{rx^r + r} \rightarrow R_g = [r, +\infty)$$

$$b=1, c=-r$$

$$f(x) = \frac{x^r - rx}{x+r} \rightarrow x+r \rightarrow \frac{x(x-r)(x+r)}{x+r} = x^r - rx$$

$$x^r - rx = 0$$

$$\rightarrow x = -r \quad x = r$$

$$D_f = R \setminus \{a, b\} \rightarrow a = -r \quad b = +r$$

$$R_f = [c, +\infty) \setminus \{1\} \rightarrow c = -1$$

$$\min \begin{cases} \frac{b}{ra} \\ -\frac{\Delta}{ra} = -1 \end{cases}$$

$$\Rightarrow f\left(\frac{-r+r}{-r}\right) = f(-1) = \frac{r}{-r}$$

$$y = \sqrt[3]{x^r + ax^r + bx - 1} = \sqrt[3]{(x-r)^r} \rightarrow x^r - rx^r + 1rx - 1 \quad a = -r \quad b = r \quad \text{سوال ۴}$$

$$D_g = [-4, 11] \rightarrow x = -4 \rightarrow f(-4) = -1 \rightarrow R_g = [-1, 10]$$

$$\rightarrow f(11) = 10$$

s.a.m

سوال ۱

$$y = [x] + \left[x + \frac{1}{2}\right] \quad , \quad \left[\frac{1}{2}, 1\right)$$

$$\left[\frac{1}{2}, 1\right) \Rightarrow 0 + 1 = 1$$

$$\left[1, \frac{3}{2}\right) \Rightarrow 1 + 1 = 2$$

$$\left[\frac{3}{2}, \frac{5}{2}\right) \Rightarrow 1 + 2 = 3$$

