

تکلیف

دوازدهم بهار

کلاس ریاضی

۱۹، ۷۵

الف

$$\sin \Delta \rightarrow R = \begin{bmatrix} -1 & 1 \end{bmatrix}$$

$$\sin^2 \Delta \rightarrow R = \begin{bmatrix} 0 & 1 \end{bmatrix}$$

$$2 \sin^2 \Delta \rightarrow R = \begin{bmatrix} 0 & 2 \end{bmatrix}$$

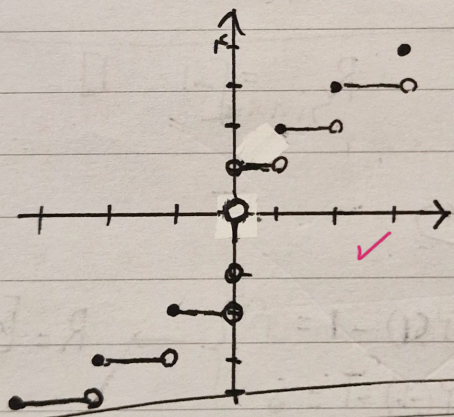
$R = \begin{bmatrix} -1 & 1 \\ 0 & 1 \\ 0 & 2 \end{bmatrix}$

ب

$$c.s \Delta \rightarrow R = \begin{bmatrix} -1 & 1 \end{bmatrix}$$

$$3 c.s \Delta \rightarrow R = \begin{bmatrix} -3 & 3 \end{bmatrix}$$

$$2 c.s \Delta - 4 \rightarrow R = \begin{bmatrix} -2 & -2 \end{bmatrix}$$

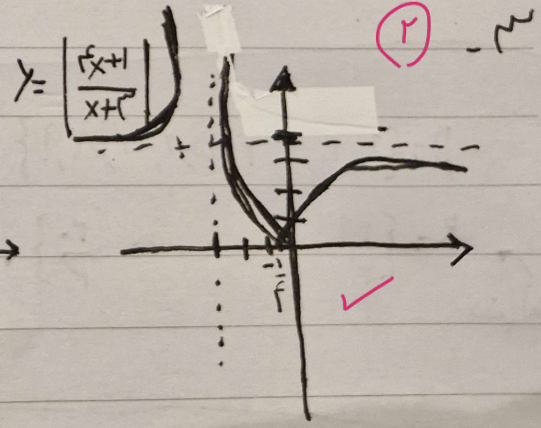
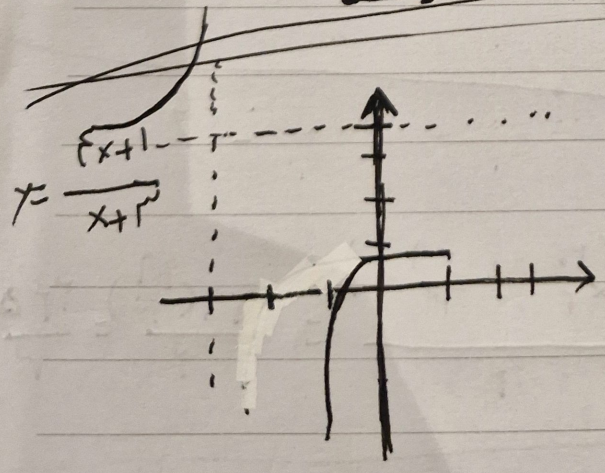


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$$x > 0 \rightarrow 1 + [x]$$

$$x < 0 \rightarrow -1 + [x]$$

$x = 0 \rightarrow$ تعریف نشده



$$(f(3)) - (f(1)) = 12 > 0$$

الف) ان

$$x + \frac{1}{x} \geq 2$$

زیر ادیکال باید مثبت باشد

$$x + \frac{1}{x} + 2\sqrt{x + \frac{1}{x}} \rightarrow 2 + 2\sqrt{2} \rightarrow R = [2 + 2\sqrt{2}, +\infty)$$

ب)

$$R_{\sin x} = [-1, 1]$$

$$y = 3 + 2\sin x - \sin^2 x$$

$$\left. \begin{array}{l} 3 + 2(1) - 1 = 4 \\ 3 + 2(-1) - 1 = 0 \end{array} \right\} \rightarrow R = [0, 4]$$

$$D = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$$

دنباله حسابی

$$R = \left\{ \frac{29}{3}, \dots, \frac{21}{3} \right\}$$

جمله دهم

$$10 \left(\frac{21}{3} + \frac{29}{3} \right) = \frac{10 \left(\frac{49}{3} \right)}{2} = \frac{245}{3}$$

صفحه آخر...

$$\sqrt{ax^2 + bx + c}$$

معادله زیر ادیکال فقط اسف

$$D = [2, +\infty)$$

$$\rightarrow a = 0 \rightarrow 2b = c \rightarrow \sqrt{bx - 2b}$$

$$\rightarrow x = 3 \rightarrow \sqrt{3b - 2b} = 1 \rightarrow b = 1, c = -2$$

$$\sqrt{x^2 + 4} \rightarrow R = [2, +\infty)$$

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

نمیست
در دامنه

باید باشد
چون دامنه هم
باید باشد

$$(x-2)x = 1 \rightarrow x = 2$$

$$y = x^2 - 2x \rightarrow x_5 = 1 \rightarrow y_5 = -1$$

$$f\left(\frac{2}{-1}\right) = f(-1) = (-3)(-1) = 3$$

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

$$a = -1, b = 1$$

$$x = -1 \rightarrow y = -1$$

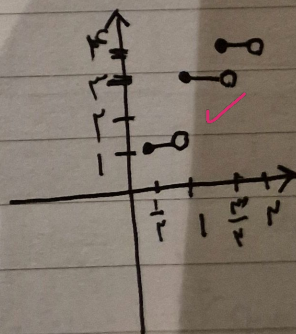
$$x = 1 \rightarrow y = 1$$

$$R = [-1, 1]$$

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

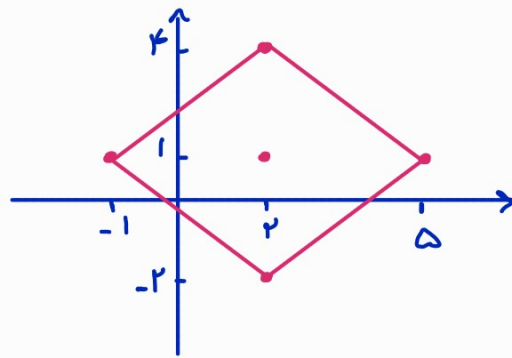
$$\frac{1}{2} \leq x < 1$$

$$y = \begin{cases} 1 & \frac{1}{2} \leq x < 1 \\ 2 & 1 \leq x < \frac{3}{2} \\ 3 & \frac{3}{2} \leq x < 2 \end{cases}$$



در دامنه

$$\begin{cases} x \geq 2, y \geq 1 \rightarrow y = -x + 4 \\ x \geq 2, y \leq 1 \rightarrow y = x - 4 \\ x \leq 2, y \geq 1 \rightarrow y = x + 2 \\ x \leq 2, y \leq 1 \rightarrow y = -x \end{cases}$$



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$$D_f = \{1, 2, \dots, 9\} \rightarrow R_f = \left\{ \frac{r_1}{r}, \frac{r_2}{r}, \dots, \frac{r_9}{r} \right\}$$

دنباله حسابی

$$S_n = \frac{n}{r} (a_1 + a_n) \Rightarrow S_n = \frac{9}{r} \left(\frac{r_1}{r} + \frac{r_9}{r} \right) = \textcircled{72}$$

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