

14, 25

نام و نام خانوادگی پاسبانمه تشریحی تکلیف شماره کلاس (دوازدهم ریاضی)

$$\begin{aligned} -n \rightarrow f(n) + n f(-n) &= 2|-n| + 1 \quad (1-n=-n) \rightarrow f(n) + n f(-n) = 2|n| + 1 \\ \rightarrow f(-n) &= 2|n| + 1 + n f(n) \rightarrow f(n) + n(2|n| + 1 + n f(n)) = 2|n| + 1 \\ \rightarrow f(n) + 2n|n| + n + n^2 f(n) &= 2|n| + 1 \rightarrow (1 + n^2) f(n) = 2|n| + 1 - 2n|n| - n \\ (1 + n^2) f(n) &= (1 - n)(2|n| + 1) \Rightarrow f(n) = \frac{(1 - n)(2|n| + 1)}{1 + n^2} \end{aligned}$$

$$\begin{aligned} f(1) + f(-1) &= 0^2 - 2(1) + 2 \rightarrow 2f(1) = 2 \rightarrow f(1) = 1 \\ n = n^2 \rightarrow f(n^2) + f(1/n^2) &= (n^2)^2 - 2(n^2) + 2 \rightarrow f(n^2) = n^4 - 2n^2 + 2 \end{aligned}$$

$$\begin{aligned} y(n-1) &= n^2 + n + 2 \rightarrow y n - y = n^2 + n + 2 \rightarrow n^2 + (1-y)n + (y+2) = 0 \\ n \in \mathbb{R} \Delta > 0 \rightarrow (1-y)^2 - 4(y+2) &\geq 0 \rightarrow 1 - 2y + y^2 - 4y - 8 \geq 0 \\ \rightarrow y^2 - 6y - 7 &\geq 0 \rightarrow (y-1)(y+7) \geq 0 \rightarrow y \leq -1 \cup y \geq 7 \\ &\rightarrow (-\infty, -1] \cup [7, +\infty) \end{aligned}$$

$$\begin{aligned} \text{ا) } \lim_{x \rightarrow 0} \frac{2x - f(x)(1)}{x} &= -\frac{1}{x} \rightarrow [-\frac{1}{x}, +\infty) \\ \text{ب) } \uparrow \rightarrow [0, 4] \\ \text{ج) } \rightarrow \text{مربع} \rightarrow \mathbb{R} \xrightarrow{\sqrt{\cdot}} (-\infty, +\infty) \xrightarrow{\sqrt{\cdot}} [0, +\infty) \\ \text{د) } \rightarrow \text{چون توان فرد} \rightarrow \mathbb{R} \end{aligned}$$

$$\begin{aligned} \text{الف) } P < 0 \rightarrow ad - bc < 0 \rightarrow \text{خط} \rightarrow \mathbb{R} - \{ \frac{a}{c} \} \\ \text{ب) } y^2 = \frac{2n+1}{n-2} \rightarrow y^2(n-2) = 2n+1 \rightarrow n(y^2-2) = 2y^2+1 \rightarrow n = \frac{2y^2+1}{y^2-2} \\ \Rightarrow y^2 - 2 \neq 0 \rightarrow y \neq \pm \sqrt{2} \Rightarrow [0, +\infty) - \{ \sqrt{2} \} \\ \text{ج) } \frac{n^2+3n+1}{\sqrt{n^2+3n}} \rightarrow y = \sqrt{n^2+3n} + \frac{1}{\sqrt{n^2+3n}} \xrightarrow{\text{min}} \sqrt{3} + \frac{1}{\sqrt{3}} = \frac{4}{\sqrt{3}} \Rightarrow [\frac{4}{\sqrt{3}}, +\infty) \end{aligned}$$

د) $\rightarrow [1/4, +\infty)$ از روش $a + \frac{1}{a}$ می‌تواند برای

$y = n^2 + 4 + \frac{1}{n^2+4} - 4 \xrightarrow{a>0} \min a = 4 \rightarrow y_{\min} = \frac{1}{4}$

$\Rightarrow R_y = [1/4, +\infty)$

$$y m^2 - 2 = 3m^2 + 4 \rightarrow y m^2 - 3m^2 = y + 4 \rightarrow (y-3)m^2 = y+4$$

$$\Rightarrow m^2 = \frac{y+4}{y-3} \Rightarrow \frac{y}{3} \mid \frac{-2}{6} - \frac{3}{6} \Rightarrow (-\infty, -1] \cup (3, +\infty)$$

خرج می تواند منفی شود → روشن مربع؟! $\frac{3m^2+4}{m^2-1} \geq 3 + \frac{4}{m^2-1} \Rightarrow m^2-1 < 0 \Rightarrow \frac{4}{m^2-1} < -4$

→ $y < -4$ $m^2 > 1 \rightarrow m^2-1 > 0 \rightarrow \frac{4}{m^2-1} > 0 \Rightarrow y > 3 \Rightarrow (-\infty, -4] \cup (3, +\infty)$

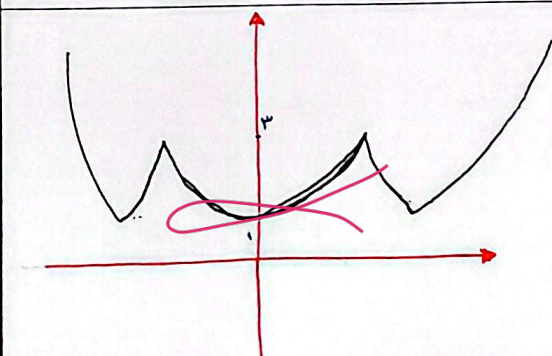
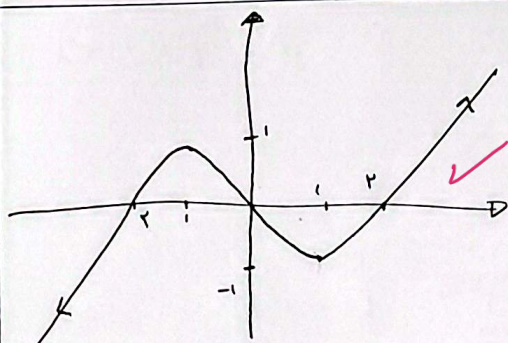
$$-1 \leq \sin \alpha \leq 1$$

$$\left\{ \begin{array}{l} -1 \leq \frac{-x+4}{-x} = -\frac{x}{x} = -1 \\ 1 \leq \frac{x+2}{1-x} = \frac{4}{-x} = -4 \end{array} \right\} \Rightarrow R = [-3, 6] \cup \left[-\frac{1}{4}\right]$$

الف) $\{m \neq 0 \rightarrow m \neq 0 \rightarrow \frac{3m-1}{\varepsilon m} = \frac{3}{\varepsilon} - \frac{1}{\varepsilon m} \rightarrow 3m-1 = 0$

$\Rightarrow R = [0, +\infty)$ $\Rightarrow \nexists m \rightarrow y = 0$

ب) $\sqrt{\frac{9m-11}{-1+\varepsilon m}} = \sqrt{\frac{9(m-1)}{\varepsilon(m-1)}} = \frac{3}{\varepsilon} = \frac{1}{\omega} \Rightarrow R = \left\{ \frac{1}{\omega} \right\}$



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1, 2, 5

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نکته: $\square = x^2 \rightarrow \begin{cases} x^2 = 0 \rightarrow y = -4 \\ x^2 \sim \infty \rightarrow y = 3 \end{cases} \xrightarrow[\text{صفحه}]{\text{مخرج میونه}} R_y = (-\infty, -4] \cup (3, +\infty)$

۸- اول برد عبارت داخل قدر مطلق رو حساب میکنیم بعد قدر مطلق رو میگیریم فقط حواسه باشه که $y = \frac{3}{4}$ هم هست داخل برد $y = \frac{3}{4}$ عضو برد عبارت داخل قدر مطلق هست و وقتی قدر مطلق بگیریم $y = \frac{3}{4}$ رو قید بهموت ن:

