

نام و نام خانوادگی پرستش پاسخنامه تشریحی تکلیف شماره کلاس (دوازدهم ریاضی دوم)

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

$$f_c) + f_c) = 0^2 - 2c) + 2 \rightarrow 2f_c) = 2 \rightarrow f_c) = 1$$

$$n = n^2 \rightarrow f(n^2) + \frac{f_c)}{n} = (n^2)^2 - 2(n^2) + 2 \rightarrow f(n^2) = n^4 - 2n^2 + 1$$

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

$$a) \frac{\Delta}{\Delta} \rightarrow \frac{2a - f(x)(1)}{\Delta} = -\frac{1}{\Delta} \rightarrow [-\frac{1}{\Delta}, +\infty)$$

$$b) \rightarrow [0, 2]$$

$$c) \rightarrow \text{در } \mathbb{R} \rightarrow \mathbb{R} \xrightarrow{\sqrt{\cdot}} (-\infty, +\infty) \xrightarrow{\sqrt{\cdot}} [0, +\infty)$$

$$d) \rightarrow \text{چون } \mathbb{R} \rightarrow \mathbb{R}$$

$$a) \text{ و } b) \rightarrow P < 0 \rightarrow ad - bc < 0 \rightarrow \text{خط } R = \{ \frac{a}{b} \}$$

$$b) \rightarrow y^2 = \frac{2n+1}{n-2} \rightarrow y^2(n-2) = 2n+1 \rightarrow n(y^2-2) = 2y^2+1 \rightarrow n = \frac{2y^2+1}{y^2-2}$$

$$\Rightarrow y^2 - 2 \neq 0 \rightarrow y \neq \pm \sqrt{2} \Rightarrow [0, +\infty) - \{ \pm \sqrt{2} \}$$

$$c) \rightarrow \frac{n^2 + 2n + 1}{\sqrt{n^2 + 2n}} \rightarrow y = \sqrt{n^2 + 2n} + \frac{1}{\sqrt{n^2 + 2n}} \xrightarrow{\text{min } \sqrt{n^2 + 2n} = \sqrt{1} = 1} \sqrt{1} + \frac{1}{\sqrt{1}} = 2 \Rightarrow [\frac{2}{\sqrt{2}}, +\infty)$$

$$d) \rightarrow [1, +\infty)$$

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

$$\rightarrow m^2 = \frac{y+4}{y-3} \Rightarrow \frac{y}{f(m)} + \frac{-2}{b} - \frac{3}{f} + \Rightarrow (-\infty, -1] \cup [3, +\infty)$$

خرج می تواند منفی شود و در آن

$$\frac{3m^2+4}{m^2-1} \geq 3 + \frac{4}{m^2-1} \Rightarrow m^2-1 < 0 \Rightarrow \frac{4}{m^2-1} < -4$$

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

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

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

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

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

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

