

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره کلاس

$f(n) + n f(-n) = 2 n + 1$ $f(-n) - n f(n) = 2 n + 1 \xrightarrow{n \rightarrow -n} -n f(-n) + n f(n) = 2n n - n$ $(n^2 + 1) f(n) = 2 n - 2n n - n + 1 = 2 n (1 - n) - n + 1$ $f(n) = \frac{(1-n)(2 n +1)}{n^2+1}$	(2) 1
$f(n) + f(0) = n^2 - 2n - 9 \rightarrow f(0) + f(0) = 9 \rightarrow f(0) = 9/2 \rightarrow f(n) = n^2 - 2n + 9/2$ $f(n) = n^2 - 2n + 9/2$	(2) 2
$y^2 - y = n^2 + n + 1 \rightarrow n^2 + (1-y)n + 1 + y = 0 \xrightarrow{\Delta} n = \frac{(y-1) \pm \sqrt{(1-y)^2 - 4(1+y)}}{2}$ $\Delta \geq 0 \rightarrow y^2 - 2y + 1 - 4 - 4y \geq 0 \rightarrow y^2 - 6y - 3 \geq 0 \rightarrow (y+1)/(y-4) \geq 0$ $\frac{-1}{+} \quad \frac{4}{-} \rightarrow R_f = (-\infty, -1] \cup [4, +\infty)$	(2) 3
الف) $\rightarrow a > 0 \rightarrow y \geq y^{\min} \rightarrow n_{\min} = \frac{a}{4} \rightarrow y_{\min} = \frac{16}{a} \rightarrow R_f = [\frac{16}{a}, +\infty)$ ب) $\rightarrow n_{\min} = 3 \rightarrow y_{\min} = 9 \rightarrow R_f = [9, +\infty)$ ج) $\rightarrow R_f = \sqrt{R} = [0, +\infty)$	(2) 4
د) $-\infty < n^2 - 4n^2 + 4n + 4 < +\infty \rightarrow \log \rightarrow 0 < n^2 - 4n^2 + 4n + 4 < +\infty \rightarrow R_{\log(n^2 - 4n^2 + 4n + 4)} = (-\infty, +\infty) = R$	
الف) $R = \mathbb{R} - \{\text{مکاتبه‌ای}\} \rightarrow R_f = \mathbb{R} - \{\frac{3}{4}\}$ ب) $R = \sqrt{R} - \{\frac{9}{4}\} = [0, +\infty) - \{\frac{9}{4}\}$ ج) $n^{\min} \geq 0 \rightarrow y = \frac{16}{n^2} \rightarrow R = [\frac{16}{n^2}, +\infty)$	(2) 5
د) $\xrightarrow{\pm 4} n^2 + 4 + \frac{1}{n^2 + 4} \xrightarrow{a + \frac{1}{a}} a_{\min} = 4 \rightarrow R = [4, +\infty)$	

$$① \quad n^2 y - y^2 n^2 + n^2 - y (y = n^2) n^2 + n^2 + y \rightarrow n^2 \pm \sqrt{\frac{n^2 + y}{y - n^2}} \geq 0$$

$$\frac{-n^2}{+0} - \frac{n^2}{+0} \rightarrow R = (-\infty, -n^2] \cup (n^2, +\infty)$$

(2)

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$$\left. \begin{array}{l} n^2 \min z = 0 \rightarrow y = -n^2 \\ n^2 \max z = +\infty \rightarrow y = +n^2 \end{array} \right\} \rightarrow R = (-\infty, -n^2] \cup (n^2, +\infty)$$

$$\sin n = -1 \rightarrow f(n) = \frac{1}{n} \quad \sin n = 1 \rightarrow f(n) = \frac{1}{n}$$

(2)

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$$\lim_{n \rightarrow \infty} \left(\frac{1}{n} \right) \rightarrow R = [-n^2, -\frac{1}{n^2}]$$

$$\left| \frac{n-1}{n} \right| \rightarrow R = \left\{ \frac{n}{n} \right\} \rightarrow R_f = [0, +\infty) \setminus \left\{ \frac{n}{n} \right\}$$

صفر بعد

(1, 2, 5)

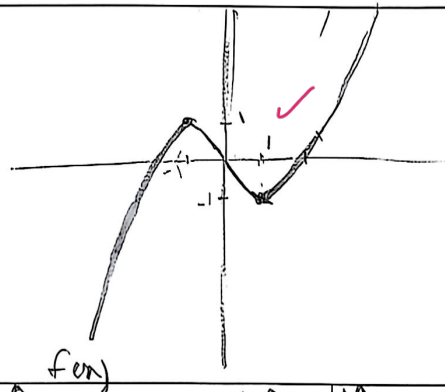
$$\rightarrow \sqrt{\frac{9n-1}{n-1}} = \sqrt{\frac{9(n-1)}{n(n-1)}} = \sqrt{\frac{9}{n}} = \frac{3}{\sqrt{n}} \rightarrow R = \left\{ \frac{n}{n} \right\}$$

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$$n \geq 0 \rightarrow y = n^2 - n$$

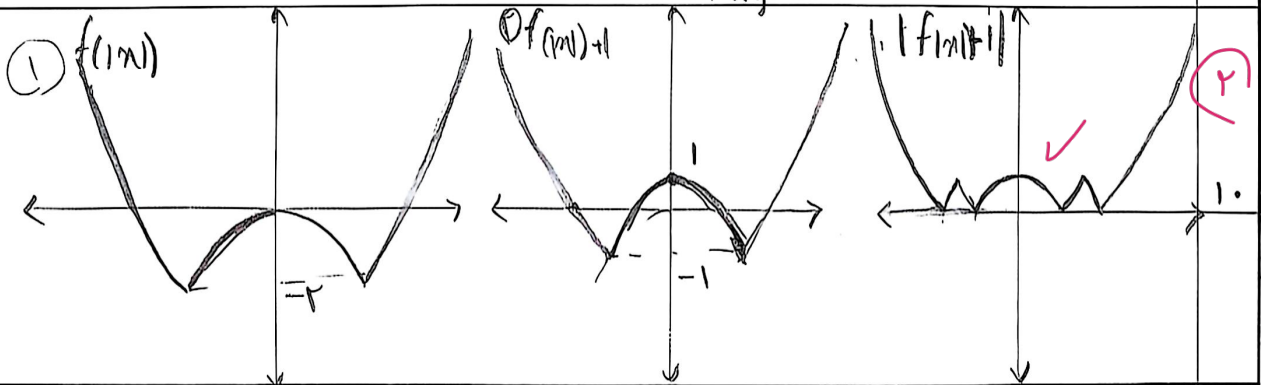
$$n \leq 0 \rightarrow y = -n^2 - n$$

$$R_f = (-\infty, +\infty)$$



(2)

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(2)

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۸- اول برد عبارت داخل قدر مطلق
رو حساب می کنیم بعد قدر مطلق می گیریم

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 صید بهمونت

