

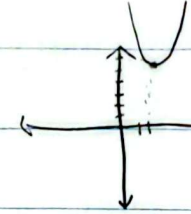
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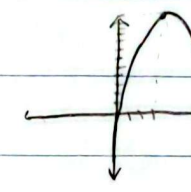
در مسائل زائده - درم دفتر A

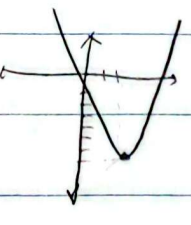
$y = n^3 - 3n^2 + 3n - 1 + 1 = (n-1)^3 + 1 \rightarrow y - 1 = (n-1)^3$  (سوال 1)  
 $\rightarrow n-1 = \sqrt[3]{y-1} \rightarrow n = \sqrt[3]{y-1} + 1 \rightarrow R_f = \mathbb{R}$  (5)

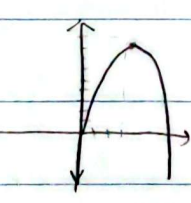
$y = \frac{1}{n^2 - 2n} \rightarrow y n^2 - 2ny = 1 \rightarrow y n^2 - 2ny - 1 = 0$

$n = \frac{2y \pm \sqrt{4y^2 + 4y}}{2y} \rightarrow 4y(y+1) \geq 0 \rightarrow y \leq -1 \text{ or } y \geq 0$   
 $\rightarrow D_f = (-\infty, -1] \cup [0, +\infty)$

$y = n^2 - 2n + 1 \quad \min \left| \begin{matrix} 2 \\ 4 \end{matrix} \right|$ 

 $\rightarrow R_f = [0, +\infty)$  (سوال 2) (5)

$y = -n^2 + 4n + 2 \quad \max \left| \begin{matrix} 2 \\ 12 \end{matrix} \right|$ 

 $R_f = (-\infty, 12]$

$y = \sqrt{n^2 - 2n - 2} \rightarrow \min \left| \begin{matrix} 2 \\ -4 \end{matrix} \right|$ 

 $\rightarrow R_f = \sqrt{[-3, +\infty)} = [-3, +\infty)$

$y = \sqrt{-n^2 + 4n} \rightarrow \max \left| \begin{matrix} 2 \\ 4 \end{matrix} \right|$ 

 $R_f = \sqrt{(-\infty, 2]} = (-\infty, 2]$

1)  $R_f = \mathbb{R}$     2)  $R_f = \mathbb{R}$     3)  $R_f = \mathbb{R} \cup [0, +\infty)$     4)  $R_f = [0, +\infty)$  (5)

الف)  $R_f: \mathbb{R} - \{0\}$

ب)  $R_f: \mathbb{R} - \{1\}$

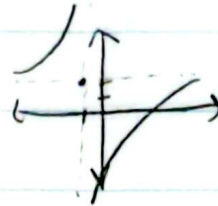
سوال ٤

سوال ٥

الف)  $R_f: \sqrt{\mathbb{R} - \{1\}} = [0, +\infty) - \{\sqrt{1}\}$

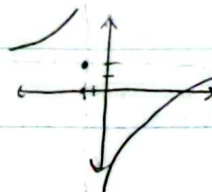
ب)  $R_f: \sqrt{\mathbb{R} - \{-1\}} = [0, +\infty)$

الف)  $y = \frac{2n-5}{n+1} \rightarrow \begin{cases} \text{مجاوب نام} & -1 \\ \text{مجاوب الف} & 2 \end{cases}$



سوال ٦

ب)  $y = \frac{2n-1}{n+2} \rightarrow \begin{cases} \text{مجاوب نام} & -2 \\ \text{مجاوب الف} & 2 \end{cases}$



الف)  $\sin n + \frac{1}{\sin n} \rightarrow R_f: (-\infty, -1] \cup [1, +\infty)$  (سوال ٧)

ب)  $\frac{n^4+1}{n^4+1} = n^4 + \frac{1}{n^4} \rightarrow R_f: (-\infty, -2] \cup [2, +\infty)$

ج)  $\sqrt{n^2} + \frac{1}{\sqrt{n}} \rightarrow R_f: (-\infty, -2] \cup [2, +\infty)$

د)  $\sqrt{n} + \frac{1}{\sqrt{n}} \rightarrow R_f: [2, +\infty)$

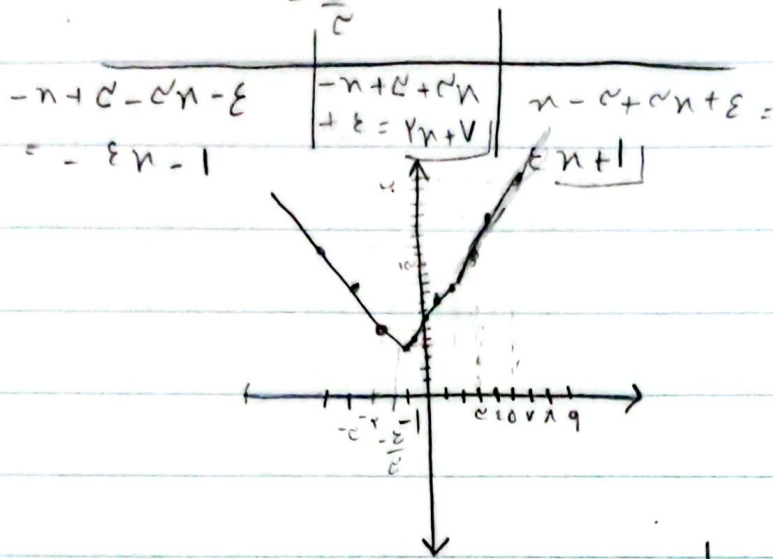
سوال ٨

$y = n^2 + \frac{1}{n^2+c} + c \rightarrow n^2 + c + \frac{1}{n^2+c} + c \Rightarrow R_f: [\frac{1}{c} - c, +\infty)$   
 مخرج مقدار =  $\frac{1}{c} + c$

$y = \sqrt{n^2+c} + \frac{1}{\sqrt{n^2+c}} \Rightarrow R_f: [2, +\infty)$   
 $2 = \text{مخرج مقدار}$

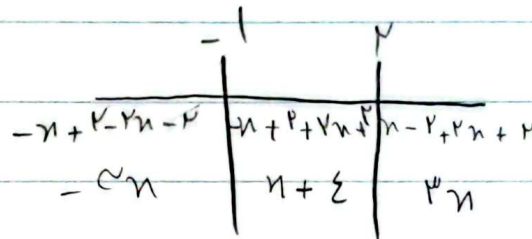
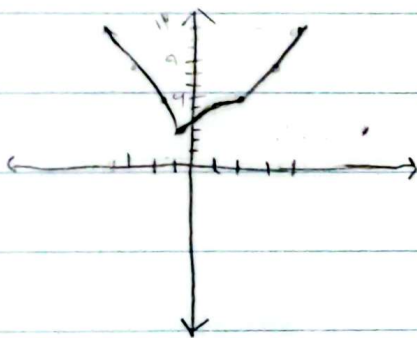
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$$y = |n - r| + |2n + \varepsilon|$$



سوال ۹  
(۵)

$$y = |n - r| + |2n + r|$$

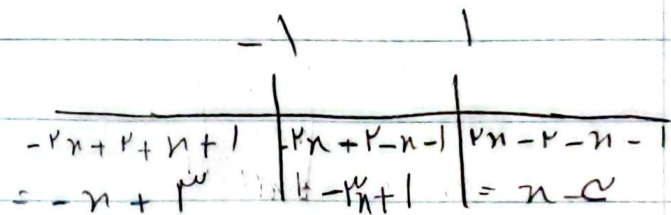
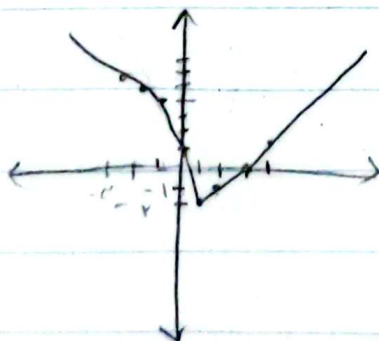


مطلوبه ۱۰  
(۱,۵)

$$R = [-r, +\infty)$$

نمایش دایره

$$y = |2n - r| - |n + 1|$$



$$R = [-1, +\infty)$$