

مجموعه معین سوالات

$x \Rightarrow f(-x) - xf(x) = r|x| + 1 \times x \Rightarrow xf(-x) - x^r f(x)$   
 $-x \Rightarrow f(x) + xf(-x) = r|-x| + 1$   
 $x^r f(x) + f(x) = r|-x| + 1 - r|x| - 1 - x \Rightarrow$   
 $f(x)(x^r + 1) = r|-x| - r|x| + 1 - x - 1 = r|-x| - r|x| - x$   
 $f(x)(x^r + 1) = r|-x| - r|x| - x$

|       |                             |
|-------|-----------------------------|
| $u_1$ | $-\frac{r x  + 1}{x^r + 1}$ |
| $u_2$ | $\frac{r x  - 1}{x^r + 1}$  |

$x=0 \Rightarrow rf(0) = 1 \Rightarrow f(0) = \frac{1}{r} \Rightarrow f(x) = \frac{1}{r} + \frac{1}{x}$   
 $\Rightarrow f(x^r) = \frac{1}{r} + \frac{1}{x^r}$

$yx - y = x^r + x + r \Rightarrow x^r + (x - y)x + r + y$   
 $\Rightarrow x = \frac{-1+y \pm \sqrt{1+y^2 - ry - 1 - ry}}{r} \Rightarrow \sqrt{y^2 - ry - 1} \geq 0 \Rightarrow (y-r)(y+1) \geq 0$   
 $\Rightarrow R = (-\infty, -1] \cup [r, +\infty)$

$f(x) \leq \min \Rightarrow x \leq \frac{\omega}{r}$   
 $y \leq \frac{\omega}{r} - \frac{r\omega}{r} + 1 \leq -\frac{r\omega}{r} + 1 \leq \frac{-1r}{r} \Rightarrow R \leq \left[-\frac{1r}{r}, +\infty\right)$

$\Rightarrow \sqrt{-(x^r - 9x + \omega)} \Rightarrow \max \Rightarrow x \leq r \Rightarrow \sqrt{(-\infty, r)} \Rightarrow [0, r]$

$E) \leq [0, +\infty)$  (در  $R$  و  $\omega$  و  $r$ )

$1) \log_{10} x = ?$

$f(x) \leq R - \left\{\frac{r}{r}\right\} \quad b) \leq \sqrt{R - \frac{r}{r}} \Rightarrow [0, \infty) - \{r\}$

$c) \sqrt{a^r + \frac{1}{\sqrt{a^r + r}}} = a + \frac{1}{a} \rightarrow a \geq \sqrt{r} \quad \sqrt{r} + \frac{1}{\sqrt{r}} = \frac{r+1}{\sqrt{r}}$   
 $\left[\frac{r}{\sqrt{r}} \leq \frac{r\sqrt{r}}{r}, +\infty\right)$

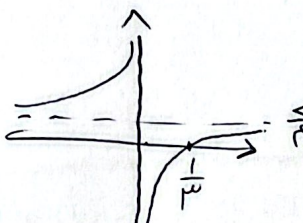
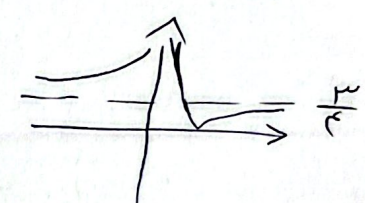
$d) x^r + r + \frac{1}{x^r + r} \Rightarrow \left[\frac{1}{r}, +\infty\right)$

$\Rightarrow \frac{y+r}{y-r} = \frac{y+r}{y-r} \Rightarrow \frac{y+r}{y-r} \leq \frac{y+r}{y-r} \Rightarrow \frac{y+r}{y-r} \leq \frac{y+r}{y-r}$   
 $\Rightarrow \frac{y+r}{y-r} \leq \frac{y+r}{y-r} \Rightarrow \frac{y+r}{y-r} \leq \frac{y+r}{y-r}$   
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$\max \leq 1 \Rightarrow \frac{q}{-r} \leq 3 \quad \min = \frac{+r}{-q} \leq -\frac{1}{r}$  (سوال ۱۰)

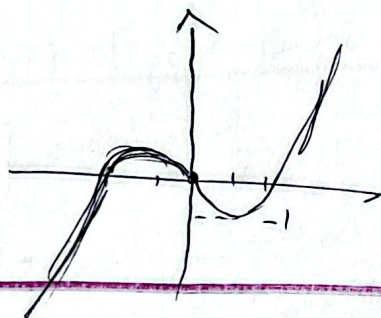
بفرض  $\Rightarrow \left[ -\frac{3}{r}, -\frac{1}{r} \right] \quad \left[ -\infty, -\frac{1}{r} \right]$

الف  $\frac{r_n - 1}{r_n}$


 $\Rightarrow$ 


$\mathcal{R} \subseteq [0, +\infty)$

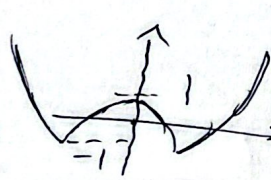
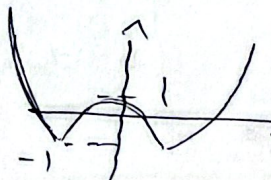
ب)  $\lim_{n \rightarrow \infty} \frac{q_n - 1}{r_n - 1} \leq \sqrt{\frac{q}{r}} \leq \frac{q}{r}$



$n_0 = n^r - r n$  (سوال ۹)

$n_1 \leq -n^r - r n$   
 $-(n^r + r n)$   
 $n(n+r)$

$\mathcal{R} \subseteq (\mathcal{R})$

$f(x) + 1 \Rightarrow$ 

 $\Rightarrow$ 


(سوال ۱۰)

