

الف) $y = \frac{1}{n-1} \Rightarrow n-1 = \frac{1}{y} \Rightarrow n = \frac{1}{y} + 1$ ①
 $R_y = \mathbb{R}$

ب) $y = \frac{1}{n-1} \Rightarrow n-1 = \frac{1}{y} \Rightarrow n = \frac{1}{y} + 1$
 $\Rightarrow n-1 = \sqrt{\frac{y-1}{y}} \Rightarrow \frac{y-1}{y} \geq 0 \Rightarrow y \geq 1$
 $R_y = [1, \infty)$

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نکته: در این مسئله

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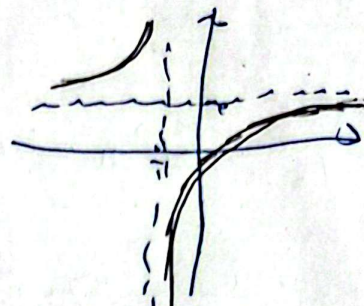
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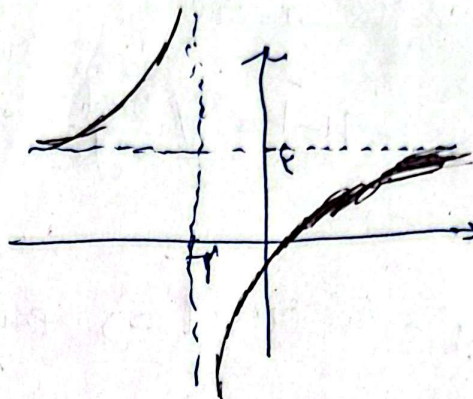
د) $y = \sqrt{\frac{y-1}{y}} \Rightarrow y \geq 1$
 $R_y = [1, \infty)$

الف) $y = \frac{n-2}{n-1} \rightarrow \begin{cases} \text{جانب راست} = -1 \\ \text{جانب چپ} = 2 \end{cases}$



(4)

ب) $y = \frac{n-1}{n+2} \rightarrow \begin{cases} \text{جانب راست} = 1 \\ \text{جانب چپ} = -2 \end{cases}$



(17)

ان) $y = \sin x + \frac{1}{\sin x} \Rightarrow R_y = (-\infty, -1] \cup [1, +\infty)$

ب) $y = \cos x + \frac{1}{\cos x} \Rightarrow R_y = (-\infty, -1] \cup [1, +\infty)$

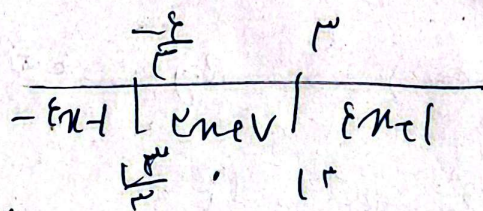
ج) $y = \sqrt{x} + \frac{1}{\sqrt{x}} \Rightarrow R_y = (0, 2] \cup [2, +\infty)$

د) $y = \sqrt{x} + \frac{1}{\sqrt{x}} \Rightarrow R_y = [2, +\infty)$

$y = x^r + \frac{1}{x^r} \Rightarrow y = x^r + \frac{1}{x^r} \Rightarrow \min \frac{1}{x^r}$

$\Rightarrow R_y = [\frac{1}{r}, +\infty) \cup (-\infty, -\frac{1}{r}] \Rightarrow R_y = [\frac{1}{r}, +\infty)$

(1)

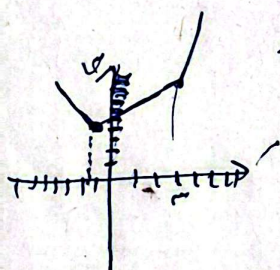


$R_y = [\frac{1}{r}, +\infty)$

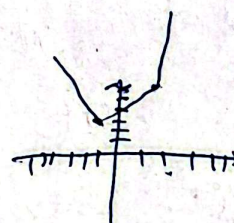
(9)

$R_y = [1, +\infty)$

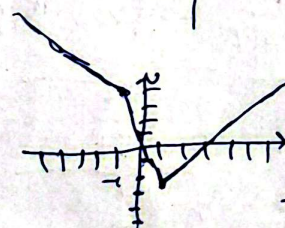
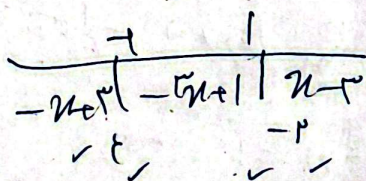
(10)



الف) $y = \frac{1}{x^r} + x^r \Rightarrow R_y = [2, +\infty)$



ب)



$\Rightarrow R_y = [2, +\infty)$