

$$-1 \leq \cos^3 n \leq 1$$

$$\hookrightarrow -1 \leq \sqrt[3]{\cos^3 n - \varepsilon} \leq -1$$

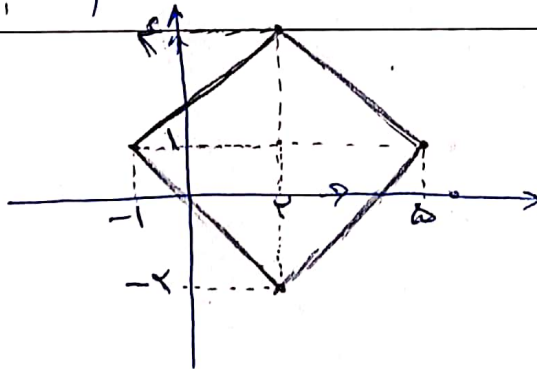
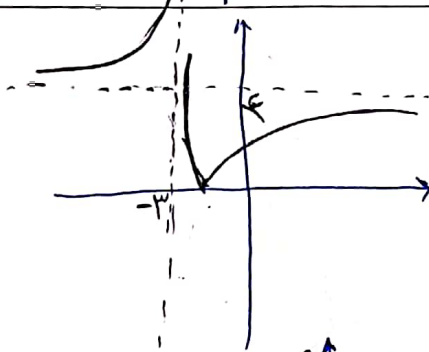
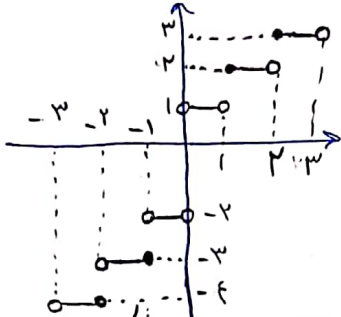
$$R = [-1, -1]$$

(الف)

$$0 \leq \sin^2(\tau) \leq 1$$

$$\hookrightarrow -1 \leq \sqrt[3]{\sin^2(n + \frac{\pi}{4}) - 1} \leq 1$$

$$R = [-1, 1]$$



$$-\sin^2 n + 2\sin n + 3$$

$$\left. \begin{array}{l} \textcircled{1} -1 \leq \sin n \leq 1 \\ \textcircled{2} -\frac{1}{2a} = 1 \end{array} \right\} R = [0, 4]$$

(الف)

$$\sqrt{n + \frac{1}{n}} \left(\sqrt{n + \frac{1}{n}} + 2 \right)$$

$$n + \frac{1}{n} \geq 2 \quad \text{و} \quad n + \frac{1}{n} \leq -2$$

$$\hookrightarrow \sqrt{n + \frac{1}{n}} \geq \sqrt{2} \rightarrow R = [2 + 2\sqrt{2}, +\infty)$$

$$-\frac{1}{x} \left(\underbrace{1+x+x^2+x^3+\dots+x^8+x^9}_{\text{is } 10} \right) + (1 \cdot x^9) = \boxed{V0}$$

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$$s = -\frac{\Delta}{\epsilon a} \rightarrow \frac{-(b^2 - \epsilon ac)}{\epsilon a} = r \rightarrow \epsilon ac - b^2 = \lambda a$$

$$qa + rb + c = 1$$

$\times$

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$$n \neq -r$$

$$s = c = \boxed{-1}$$

$$\frac{n(n^2 - \epsilon)}{n+r} = \frac{n(n+r)(n-r)}{(n+r)} = n^2 - rn$$

$$\rightarrow \boxed{-r} \Rightarrow = 1$$

$$\frac{-r+1}{-r} = \boxed{-r}$$

$$\Rightarrow a = -r, b = 1$$

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$$a^2 + a^r + ab = 1$$

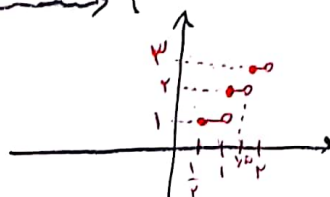
$$R = [ra^r + ab - 1, b^r + (a+1)b^r - 1]$$

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$$\textcircled{1} \frac{1}{x} b^1 \rightarrow 1, r$$

$$\textcircled{2} \frac{1}{x} b^2 \rightarrow r$$

$$\Rightarrow R = \{1, r, r\}$$



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