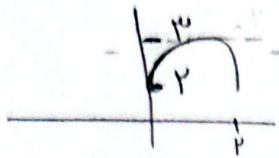


$\sqrt{\varepsilon - 2m^2} \rightarrow \varepsilon - 2m^2 \geq 0 \rightarrow 2m^2 \leq \varepsilon \rightarrow m^2 \leq \frac{\varepsilon}{2} \rightarrow -\sqrt{\frac{\varepsilon}{2}} \leq m \leq \sqrt{\frac{\varepsilon}{2}}$ $[-\sqrt{\frac{\varepsilon}{2}}, \sqrt{\frac{\varepsilon}{2}}]$ Ⓟ ✓ $y = \sqrt{3 m - 9} \rightarrow 3 m - 9 \geq 0 \rightarrow 3 m \geq 9 \rightarrow m \geq 3 \rightarrow \begin{matrix} m \leq -3 \\ m \geq 3 \end{matrix}$ $(-\infty, -3] \cup [3, +\infty)$	6
$y = \frac{\sqrt{ x +1}}{ x -3}$ $ x -3 \neq 0 \rightarrow x \neq 3 \rightarrow x \neq \pm 3$ $\mathbb{R} - \{-3, 3\}$ ✓ Ⓟ $y = \frac{\sqrt{m+1}}{\sqrt{m}-3}$ $m \geq 0$ $\sqrt{m}-3 \neq 0 \rightarrow \sqrt{m} \neq 3 \rightarrow m \neq 9$ $[0, +\infty) - \{9\}$	7
$y = \frac{\sin x}{y \cos x - 1} \rightarrow y \cos x - 1 \neq 0 \rightarrow y \cos x \neq 1 \rightarrow \cos x \neq \frac{1}{y}$ $\mathbb{R} - \{2k\pi \pm \frac{\pi}{y}\}$ $y = \frac{\cos x + 1}{y \sin x + 1} \rightarrow y \sin x + 1 \neq 0 \rightarrow y \sin x \neq -1 \rightarrow \sin x \neq -\frac{1}{y}$ $\mathbb{R} - \{2k\pi - \frac{\pi}{y}, 2k\pi + \frac{\pi}{y}\}$ $y = \frac{\tan x + y}{\cot x - 1} \rightarrow \begin{matrix} \text{نقاط} \\ \text{tan, cot} \\ \text{is defined} \end{matrix} \rightarrow \cot x - 1 \neq 0 \rightarrow \cot x \neq 1$ $\mathbb{R} - \{k\pi, k\pi + \frac{\pi}{y}, k\pi + \frac{\pi}{\varepsilon}\}$ $y = \frac{\sin x + 1}{y \sin x - y} \rightarrow \varepsilon \sin x - y \neq 0 \rightarrow \varepsilon \sin x \neq y \rightarrow \sin x \neq \frac{y}{\varepsilon}$ $\mathbb{R} - \{k\pi \pm \frac{\pi}{y}\}$	8
$y = \frac{1}{\sqrt{2 m-2 - \frac{1}{y}}}$ $\rightarrow 2 m-2 - \frac{1}{y} > 0$ $2 m-2 > \frac{1}{y}$ $ m-2 > \frac{1}{2} \Rightarrow \begin{matrix} m-2 > \frac{1}{2} \rightarrow m > \frac{5}{2} \\ m-2 < -\frac{1}{2} \rightarrow m < \frac{3}{2} \end{matrix}$ $(-\infty, \frac{3}{2}) \cup (\frac{5}{2}, +\infty)$ Ⓟ ✓	9
$y = \sqrt{\varepsilon - 2 m } \rightarrow \varepsilon - 2 m \geq 0 \rightarrow 2 m \leq \varepsilon \rightarrow m \leq \frac{\varepsilon}{2} \rightarrow -\frac{\varepsilon}{2} \leq m \leq \frac{\varepsilon}{2}$ $[-\frac{\varepsilon}{2}, \frac{\varepsilon}{2}]$ Ⓟ ✓ $y = \sqrt{\frac{ m }{ m }}$ $ m \neq 0 \rightarrow m \neq 0$ $\frac{ m }{ m } \geq 0$ $\mathbb{R} - \{0\}$ دو عدد مثبت هستند	10

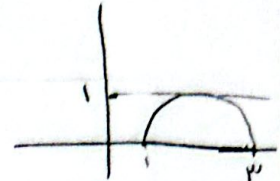
$$y = \frac{1}{\sqrt{2|m-2| - \frac{1}{y}}}$$

آزمایش ۲

$$f(n) + 1$$

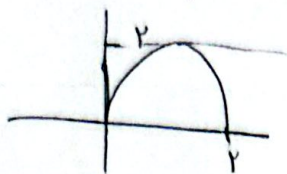


$$f(n-1)$$



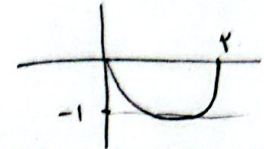
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$$2f(n)$$



✓

$$-f(n)$$



$$n^2 - 5n + 4 > 0 \rightarrow (n-3)(n-2) > 0$$

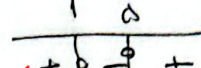
$$n^2 - 4n + 5 < 0 \rightarrow (n-5)(n-1) < 0$$

$$n^2 + 4n + 5 \geq 0 \rightarrow (n+5)(n+1) \geq 0$$

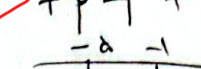
$$n^2 - 5n + 4 \leq 0 \rightarrow (n-4)(n-1) \leq 0$$



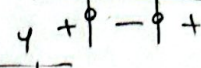
$$(-\infty, 2) \cup (3, +\infty)$$



$$(1, 5)$$



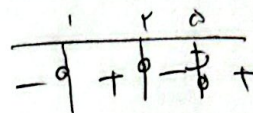
$$(-\infty, -5] \cup [-1, +\infty)$$



$$[1, 4]$$

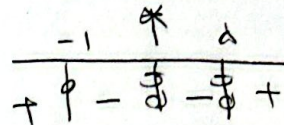
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$$\frac{n^2 - 3n + 2}{n - 5} < 0 \rightarrow \frac{(n-2)(n-1)}{n-5}$$



$$(-\infty, 1) \cup (2, 5)$$

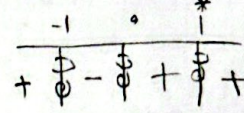
$$\frac{n^2 - 1}{n^2 - 4n + 5} \geq 0 \rightarrow \frac{(n-1)(n+1)}{(n-5)(n-1)}$$



$$(-\infty, -1] \cup (5, +\infty)$$

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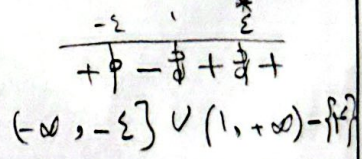
$$y = \sqrt{\frac{n^2 - 1}{n^2 - n}} \rightarrow \frac{n^2 - 1}{n^2 - n} \geq 0 \rightarrow \frac{n^2 - 1}{n(n^2 - 1)} \geq 0$$



$$(-\infty, -1) \cup (0, 1) \cup (1, +\infty)$$

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$$y = \sqrt{\frac{n^2 - 12}{n^2 - 5n + 4}} \rightarrow \frac{n^2 - 12}{n^2 - 5n + 4} \geq 0 \rightarrow \frac{(n-4)(n+3)}{(n-4)(n-1)}$$



$$(-\infty, -3] \cup (1, +\infty)$$

$$y = \sqrt{4 - \sqrt{2-n}}$$

$$4 - \sqrt{2-n} \geq 0 \rightarrow \sqrt{2-n} \leq 2$$

$$4 - \sqrt{2-n} \geq 0 \rightarrow \sqrt{2-n} \leq 2 \rightarrow 2 - n \leq 4 \rightarrow n \geq -2$$

$$[-2, 2]$$

$$n - 2 \geq 0 \rightarrow n \geq 2$$

استدلال

$$[2, 11]$$

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$$\sqrt{3 - \sqrt{n-2}}$$

$$3 - \sqrt{n-2} \geq 0 \rightarrow \sqrt{n-2} \leq 3 \rightarrow n - 2 \leq 9 \rightarrow n \leq 11$$