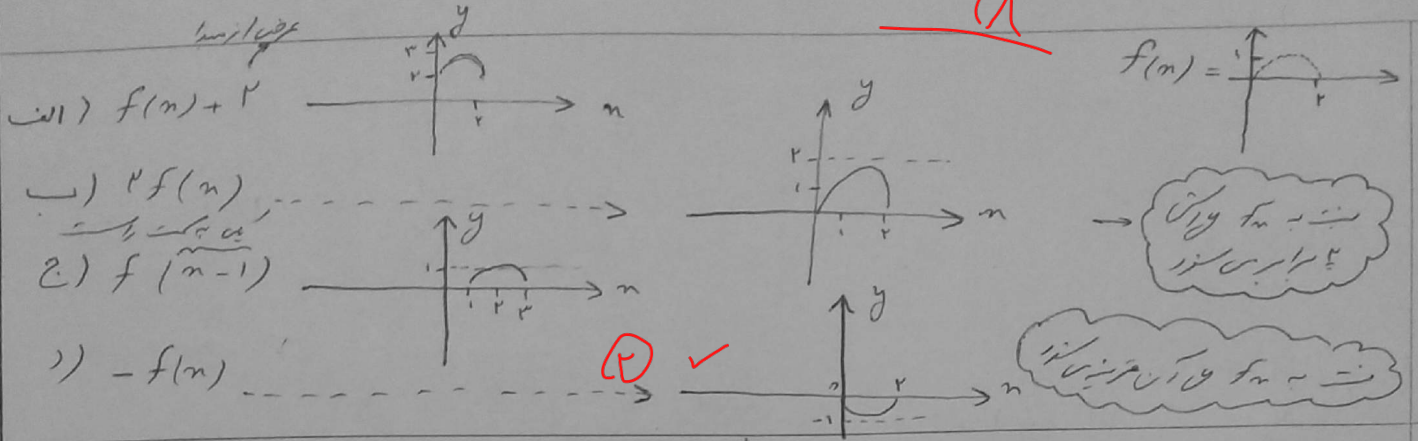




الف) $n^2 - 5n + 6 > 0$

$$\frac{(n-2)(n-3)}{1 \cdot 1} + \frac{2}{1} - \frac{3}{1} + \dots$$

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

ب) $n^2 - 6n + 5 < 0$

$$\frac{(n-1)(n-5)}{1 \cdot 1} + \frac{1}{1} - \frac{5}{1} + \dots$$

$(1, 5)$

ج) $n^2 + 4n + 5 > 0$

$$\frac{(n+1)(n+5)}{1 \cdot 1} + \frac{-1}{1} - \frac{-5}{1} + \dots$$

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

د) $n^2 - 7n + 6 \leq 0$

$$\frac{(n-1)(n-6)}{1 \cdot 1} + \frac{1}{1} - \frac{6}{1} + \dots$$

$[1, 6]$

الف) $\frac{(n-1)(n-2)}{n-1} < 0$

$$\frac{n^2 - 3n + 2}{n-1} < 0$$

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

ب) $\frac{(n-1)(n+1)}{n^2 - 1} \geq 0$

$$\frac{n^2 - 1}{n^2 - 1} \geq 0$$

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

الف) $y = \sqrt{\frac{n^3 - 1}{n^3 - n}} \rightarrow \frac{n^3 - 1}{n^3 - n} \geq 0$

$$\frac{(n^3 - 1)(n+1)}{n(n^2 - 1)(n+1)} \geq 0$$

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

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

$$\frac{(n-4)(n+4)}{(n-1)(n-4)} \geq 0$$

$(-\infty, 4) \cup (1, 4) \cup [4, +\infty)$

الف) $y = \sqrt{4 - \sqrt{4 - n}}$

$4 - n \geq 0 \Rightarrow n \leq 4$

$4 - \sqrt{4 - n} \geq 0 \Rightarrow 4 \geq \sqrt{4 - n}$

$16 \geq 4 - n \Rightarrow 16 + n \geq 4$

$n \geq -12$

ب) $y = \sqrt{3 - \sqrt{n - 2}}$

$n - 2 \geq 0 \Rightarrow n \geq 2$

$3 - \sqrt{n - 2} \geq 0 \Rightarrow 3 \geq \sqrt{n - 2}$

$9 \geq n - 2 \Rightarrow 11 \geq n$

$$1) y = \sqrt{r - 2n^2}$$

$$r - 2n^2 \geq 0$$

$$(r - \sqrt{r})(r + \sqrt{r}) \geq 0$$

$$\begin{matrix} \sqrt{r} & -\sqrt{r} \\ \downarrow & \downarrow \\ [-\sqrt{r} & \sqrt{r}] \end{matrix}$$

$$-\frac{\sqrt{r}}{1} + \frac{\sqrt{r}}{1}$$

live

$$1) y = \sqrt{3|n| - 9}$$

$$3|n| - 9 \geq 0 \Rightarrow \frac{3|n|}{3} \geq \frac{9}{3}$$

$$|n| \geq 3$$

$$\begin{matrix} n \geq 3 \\ n \leq -3 \end{matrix} \quad [3 + \infty) \cup [-3, -\infty)$$

live

$$1) y = \sqrt{\frac{|n|+1}{|n|-3}}$$

$$|n| - 3 \neq 0$$

$$\Rightarrow |n| \neq 3$$

$$\mathbb{R} - \{-3, 3\}$$

$$1) y = \sqrt{\frac{\sqrt{n}+1}{\sqrt{n}-3}}$$

$$\sqrt{n} - 3 \neq 0$$

$$\sqrt{n} \neq 3$$

$$D_f = \mathbb{R} - \{9\}$$

live

$$1) y = \frac{\sin n}{\cos n - 1}$$

$$\cos n - 1 \neq 0$$

$$\cos n \neq 1$$

$$\mathbb{R} - \{2k\pi \pm \frac{\pi}{2}\}$$

$$1) y = \frac{\cos n + 1}{\sin n + 1}$$

$$\sin n + 1 \neq 0$$

$$\sin n \neq -1$$

$$\mathbb{R} - \{2k\pi - \frac{\pi}{2}, 2k\pi - \frac{3\pi}{2}\}$$

$$2) y = \frac{\tan n + 1}{\cot n - 1}$$

$$\tan n = \frac{\sin n}{\cos n}$$

$$\cot n = \frac{\cos n}{\sin n}$$

$$\cot n - 1 \neq 0 \Rightarrow \cot n \neq 1$$

$$\mathbb{R} - \{\frac{k\pi}{4}, \frac{k\pi}{4} + \frac{\pi}{4}, \frac{k\pi}{4} + \frac{3\pi}{4}, \frac{k\pi}{4} + \frac{5\pi}{4}\}$$

$$1) y = \frac{\sin n + 1}{\sin^2 n - 3}$$

$$\sin^2 n - 3 \neq 0$$

$$\sin^2 n \neq 3$$

$$\sin n \neq \pm \sqrt{3}$$

$$\mathbb{R} - \{2k\pi + \frac{\pi}{2}, 2k\pi + \frac{3\pi}{2}, 2k\pi + \frac{5\pi}{6}, 2k\pi + \frac{7\pi}{6}\}$$

$$y = \frac{1}{\sqrt{r|n-r| - \frac{1}{r}}}$$

$$r|n-r| - \frac{1}{r} \geq 0 \Rightarrow r|n-r| \geq \frac{1}{r}$$

$$|n-r| \geq \frac{1}{r} \rightarrow n-r \geq \frac{1}{r} \Rightarrow n \geq \frac{r+1}{r}$$

$$n-r \leq -\frac{1}{r} \Rightarrow n \leq \frac{r-1}{r}$$

$$(-\infty, \frac{r-1}{r}) \cup (\frac{r+1}{r}, +\infty)$$

$$1) y = \sqrt{r - 2|n|}$$

$$r - 2|n| \geq 0$$

$$r \geq 2|n|$$

$$r \geq |n| \rightarrow \begin{matrix} r \geq n \\ -r \leq n \end{matrix}$$

live

$$1) y = \sqrt{\frac{\ln |n|}{|n|}}$$

$$\mathbb{R} - \{0\}$$

live