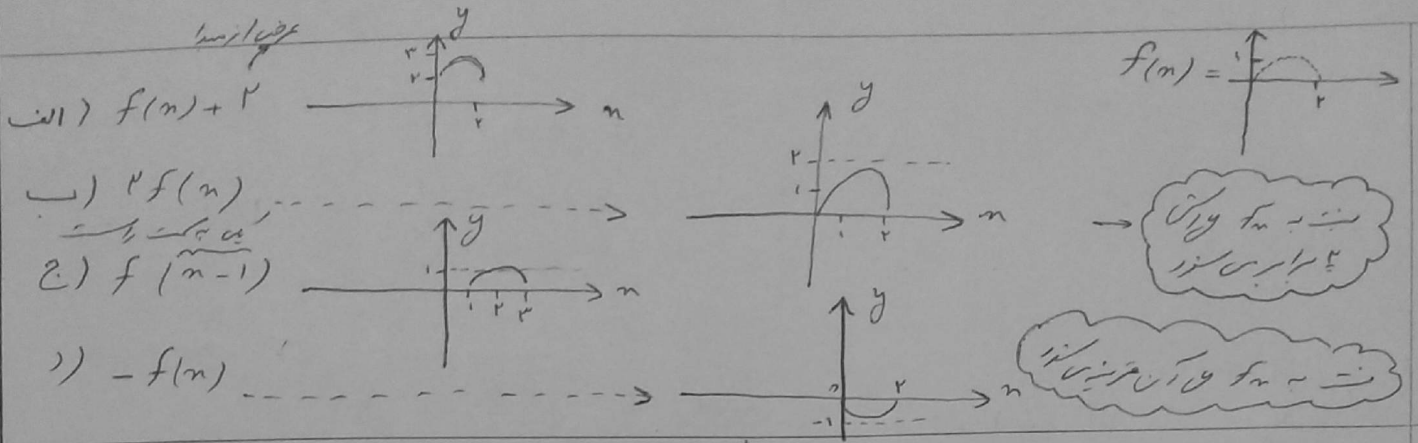




الف) $n^2 - 5n + 6 > 0$
 $(n-2)(n-3) > 0$
 $(-\infty, 2) \cup (3, +\infty)$

ب) $n^2 - 6n + 5 < 0$
 $(n-1)(n-5) < 0$
 $(1, 5)$

ج) $n^2 + 4n + 5 > 0$
 $(n+1)(n+5) > 0$
 $(-\infty, -5) \cup (-1, +\infty)$

د) $n^2 - 7n + 6 \leq 0$
 $(n-1)(n-6) \leq 0$
 $[1, 6]$

الف) $\frac{(n-1)(n-2)}{n-5} < 0$
 $(-\infty, 1) \cup (2, 5)$

ب) $\frac{n^2 - 1}{n^2 - 6n + 5} \geq 0$
 $(n-1)(n+1) \geq (n-1)(n-5)$
 $(n+1) \geq (n-5)$
 $6 \geq 0$
 $[-1, +\infty) \cup (5, +\infty)$

الف) $y = \sqrt{\frac{n^3 - 1}{n^3 - n}} \rightarrow \frac{n^3 - 1}{n^3 - n} \geq 0$
 $\frac{(n^3 - 1)(n+1)}{n(n-1)(n+1)} \geq 0$
 $\frac{n^3 - 1}{n(n-1)} \geq 0$
 $(-1, -\infty) \cup (0, +\infty) - \{1\}$

ب) $y = \sqrt{\frac{n^2 - 12}{n^2 - 5n + 4}} \rightarrow \frac{n^2 - 12}{n^2 - 5n + 4} \geq 0$
 $\frac{(n-4)(n+4)}{(n-1)(n-4)} \geq 0$
 $\frac{n+4}{n-1} \geq 0$
 $(-1, +\infty) \cup (4, +\infty) \cup [-4, -\infty)$

الف) $y = \sqrt{4 - \sqrt{2-n}}$
 $2-n \geq 0 \Rightarrow n \leq 2$
 $4 - \sqrt{2-n} \geq 0 \Rightarrow 4 \geq \sqrt{2-n}$
 $16 \geq 2-n \Rightarrow 14 \geq -n \Rightarrow n \geq -14$
 $n \in [-14, 2]$

ب) $y = \sqrt{3 - \sqrt{n-2}}$
 $n-2 \geq 0 \Rightarrow n \geq 2$
 $3 - \sqrt{n-2} \geq 0 \Rightarrow 3 \geq \sqrt{n-2}$
 $9 \geq n-2 \Rightarrow 11 \geq n$
 $n \in [2, 11]$

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

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

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

$$\boxed{[-\sqrt{r}, \sqrt{r}]}$$

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

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

$$|n| \geq \frac{a}{r}$$

$$\begin{cases} n \geq \frac{a}{r} \\ n \leq -\frac{a}{r} \end{cases} \quad \left[\frac{a}{r} + \infty \right) \cup \left(-\infty, -\frac{a}{r} \right]$$

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

$$|n| - r \neq 0$$

$$\Rightarrow |n| \neq r$$

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

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

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

$$\sqrt{n} \neq r$$

$$\mathbb{R} - \{r\}$$

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

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

$$r \cos n \neq 1$$

$$\cos n \neq \frac{1}{r}$$

$$\mathbb{R} - \left\{ r k \pi \pm \frac{\pi}{r} \right\}$$

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

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

$$r \sin n \neq -1$$

$$\sin n \neq -\frac{1}{r}$$

$$\mathbb{R} - \left\{ r k \pi - \frac{\pi}{r}, r k \pi - \frac{3\pi}{r} \right\}$$

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

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

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

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

$$\mathbb{R} - \left\{ \frac{k\pi}{r}, r k \pi + \frac{\pi}{r}, r k \pi + \frac{3\pi}{r} \right\}$$

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

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

$$r \sin^2 n \neq r$$

$$\sin^2 n \neq \frac{r}{r} \Rightarrow \sin n \neq \pm \frac{\sqrt{r}}{r}$$

$$\mathbb{R} - \left\{ r k \pi + \frac{\pi}{r}, r k \pi + \frac{3\pi}{r}, r k \pi + \frac{5\pi}{r}, r k \pi + \frac{7\pi}{r} \right\}$$

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

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

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

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

$$\left(-\infty, \frac{a}{r} \right) \cup \left(\frac{a}{r}, +\infty \right)$$

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

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

$$r \geq r|n|$$

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

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

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