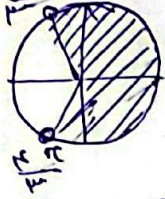


$$\text{جواب} y = \log(r \cos \pi + 1) \Rightarrow r \cos \pi + 1 > 0 \Rightarrow r \cos \pi > -1 \Rightarrow \cos \pi > -\frac{1}{r}$$



$$\Rightarrow D_f = \left( r k \pi - \frac{r \pi}{r}, r k \pi + \frac{r \pi}{r} \right)$$

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$$\text{ب) } y = \sqrt{\log \frac{n-1}{n+1}} \Rightarrow \log \frac{n-1}{n+1} > 0 \Rightarrow \frac{n-1}{n+1} > 1 \Rightarrow \frac{n-1-n-1}{n+1} > 0 \Rightarrow \frac{-2}{n+1} > 0 \Rightarrow \frac{-1}{n+1} > 0$$

$$\text{①} \cap \text{②} \Rightarrow (-\infty, -1) \cup (1, +\infty)$$

$$f(n) = \sqrt{(a+2)n^2 + an + b} \Rightarrow \begin{cases} a+2 > 0 \Rightarrow a > -2 \\ a+2 < 0 \Rightarrow a < -2 \end{cases}$$

$$f(n) = \sqrt{n^2 + 2n + 2 - n^2} \Rightarrow \begin{cases} 1 - n^2 > 0 \Rightarrow 1 > n^2 \Rightarrow -1 < n < 1 \\ 1 - n^2 < 0 \Rightarrow 1 < n^2 \Rightarrow n > 1 \text{ or } n < -1 \end{cases}$$

$$f(n) = \frac{\sqrt{1-n^2}}{[n] + [-n] + 1} \Rightarrow \begin{cases} 1-n^2 > 0 \Rightarrow 1 > n^2 \Rightarrow -1 < n < 1 \\ [n] + [-n] + 1 \neq 0 \Rightarrow [n] + [-n] \neq -1 \end{cases}$$

$$D_f = [-2, 2] \Rightarrow -2, -1, 0, 1, 2 \Rightarrow \text{مجموعه}$$

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الف)  $y = \frac{n+3}{2n^2+3n^2-1n+3} \neq 0 \Rightarrow 5n^2+2n-1 \neq 0 \Rightarrow n \neq \frac{1}{5}, -1$   $D_f = \mathbb{R} - \{\frac{1}{5}, -1\}$  (۵)

ب)  $y = \frac{n+3}{2n^2+9n^2+1 \cdot n+3} \neq 0 \Rightarrow 11n^2+n+3 \neq 0 \Rightarrow n \neq -\frac{1}{11}, -\frac{3}{11}$   $D_f = \mathbb{R} - \{-\frac{1}{11}, -\frac{3}{11}\}$

الف)  $y = \frac{n+3}{n^2-2n^2+n-1} \neq 0 \Rightarrow -n^2+n-1 \neq 0 \Rightarrow n^2-n+1 \neq 0$   $D_f = \mathbb{R} - \{1\}$  (۵)

ب)  $y = \sqrt{\frac{n+3}{n^2-2n^2+n-1}} \Rightarrow \frac{n+3}{n^2-2n^2+n-1} \geq 0$   $D_f = (-\infty, -\frac{3}{5}] \cup (\frac{1}{5}, +\infty)$

$y = \frac{2}{n^2-\omega|n-1|-2n+\omega} \neq 0 \Rightarrow n^2-\omega|n-1|-2n+\omega \neq 0$   $D_f = \mathbb{R} - \{0, \frac{1}{2}, \frac{3}{2}, \omega\}$  (۵)

$y = \frac{n+3}{|2n+1|-|n+3|}$   $\Rightarrow |2n+1|-|n+3| \neq 0 \Rightarrow |2n+1| \neq |n+3|$   $D_f = \mathbb{R} - \{2, \frac{4}{3}\}$  (۵)

$y = \sqrt{|2n+1|-|n+3|}$   $\Rightarrow |2n+1|-|n+3| \geq 0 \Rightarrow |2n+1| \geq |n+3|$   $D_f = (-\infty, \frac{4}{3}] \cup [2, +\infty)$

الف)  $y = \log_r(1-\log_r^n)$   $n > 0$   $1-\log_r^n > 0 \Rightarrow 1 > \log_r^n \Rightarrow \frac{1}{r} < n < r$   $D_f = (0, r)$  (۵)

ب)  $y = \log_r(1-\log_r^n \frac{1}{r})$   $n > 0$   $1-\log_r^n \frac{1}{r} > 0 \Rightarrow 1 > \log_r^n \frac{1}{r} \Rightarrow \frac{1}{r} < n \Rightarrow D_f = (\frac{1}{r}, +\infty)$

$f(n) = \sqrt{\log_{\omega} \log_{\omega}(n-1)}$   $n-1 > 0 \Rightarrow n > 1$   $\log_{\omega} \log_{\omega}(n-1) > 0 \Rightarrow \log_{\omega}(n-1) > 1 \Rightarrow n-1 > \omega \Rightarrow n > \omega+1$  (۵)

$\Rightarrow \emptyset \cap \emptyset \cap \emptyset \Rightarrow D_f = (1, r]$   $r \leq 9 \Rightarrow n \leq 3$  (۵)