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$$\log_a \log_a (2n-1) \geq 0 \Rightarrow \log_a (2n-1) \geq 0 \Rightarrow 2n-1 \geq 1 \Rightarrow n \geq 1 \text{ (I)}$$

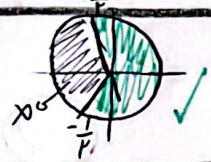
$$\log_a \frac{2n-1}{a} \leq 1 \Rightarrow 2n-1 \leq a \Rightarrow n \leq \frac{a+1}{2} \text{ (II)}$$

$$(I) \cap (II) \Rightarrow D_g = \left[1, \frac{a+1}{2}\right]$$

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الف) $\log_{10} (r \cos x + 1) \Rightarrow r \cos x + 1 > 0 \Rightarrow \cos x > -\frac{1}{r}$

$$D_g = \left(2k\pi - \frac{\pi}{r}, 2k\pi + \frac{\pi}{r}\right)$$



ب) $\sqrt{\log \frac{n-1}{n+1}} \Rightarrow \frac{n-1}{n+1} > 0 \Rightarrow (-\infty, -1) \cup (1, +\infty) \text{ (I)}$

$\log \frac{n-1}{n+1} \geq 0 \Rightarrow \frac{n-1}{n+1} \geq 1 \Rightarrow \frac{n-1-n-1}{n+1} \geq 0 \Rightarrow \frac{-2}{n+1} \geq 0 \Rightarrow n \leq -1 \text{ (II)}$

$I \cap II = [-\infty, -1]$

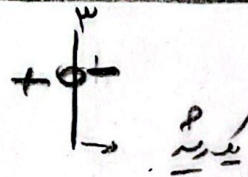
$D_g = (-\infty, -1]$

6

$$(a+2)n^2 + 9n + b \geq 0$$

$$\Rightarrow a = -2 \Rightarrow -2n + 4 \geq 0$$

جدول تغییر علامت

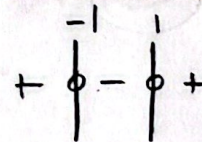


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$$n^2 + 2n + 2 - m^2 \geq 0 \Rightarrow \Delta \leq 0$$

$$f - f(2-m^2) \leq 0 \Rightarrow -f + fm^2 \Rightarrow f(m^2-1) \leq 0$$

$$(m+1)(m-1)$$



$$1 - (-1) = 2$$

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$$f - n^2 \geq 0 \Rightarrow n \in [-r, r] \text{ (I)}$$

$$[n] + [-n] + 1 \neq 0 \begin{cases} \text{if } n \in \mathbb{Z} \rightarrow \textcircled{1} \\ \text{if } n \notin \mathbb{Z} \rightarrow \textcircled{0} \end{cases} \Rightarrow n \in \mathbb{Z} \text{ (II)}$$

$$D_g = \{-r, -1, 0, 1, r\} \Rightarrow \text{اعداد صحیح}$$