

۱۹. افزین دبی راه حل های این مسئله را با دست مخالفین

الف) $\frac{n+3}{(n-1)(2n^2+5n-3)} \rightarrow 2n^2+5n-3=0 \rightarrow \frac{-5 \pm \sqrt{25+24}}{2} \rightarrow \frac{-5 \pm 7}{2} \rightarrow \frac{1}{2}, -3$
 $D_f = \mathbb{R} - \left\{ -\frac{1}{2}, 1 \right\}$

ب) $\frac{n+3}{(n+1)(2n^2+7n+3)} \rightarrow 2n^2+7n+3=0 \rightarrow n^2+7n+6=0 \rightarrow (n+1)(n+6)=0 \rightarrow \frac{-1}{2}, \frac{-6}{2}$
 $D_f = \mathbb{R} - \left\{ -3, -\frac{1}{2} \right\}$

الف) $\frac{n+3}{(n-1)(n^2-n+1)} \rightarrow D_f = \mathbb{R} - \{1\}$

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

if: $n \geq 1 \rightarrow \frac{2}{n^2-5n+5-2n+5} \rightarrow \frac{2}{n^2-7n+10} \rightarrow \frac{2}{(n-2)(n-5)}$

if: $n < 1 \rightarrow \frac{2}{n^2+5n-5-2n+5} \rightarrow \frac{2}{n^2+3n} \rightarrow \frac{2}{n(n+3)}$
 $D_f = \mathbb{R} - \left\{ -3, 0, 2, 5 \right\}$

الف) $[-n]-2 \geq 0 \rightarrow [-n] \geq 2 \rightarrow n \leq -2$

ب) $\frac{5n^2+6}{[n]^2-2[n]-3} \rightarrow ([n]-3)([n]+1) \rightarrow \begin{matrix} 3 \leq n < 4 \\ -1 \leq n < 0 \end{matrix}$
 $D_f = \mathbb{R} - \left\{ [3, 4) \cup [-1, 0) \right\}$

الف) $\sqrt{[n+\frac{1}{2}]-1} + [n+\frac{1}{2}] \geq 0 \rightarrow [n+\frac{1}{2}] + [n+\frac{1}{2}] \geq 1 \rightarrow [n+\frac{1}{2}] \geq \frac{1}{2}$

$[n+\frac{1}{2}] \geq 1 \rightarrow 1 \leq n+\frac{1}{2} < 2 \rightarrow \frac{1}{2} \leq n < \frac{3}{2} \rightarrow D_f = \left[\frac{1}{2}, \frac{3}{2} \right)$
 تعداد از اینتر باشد نیز مرتبه ۹. ۱۰۰۰۰ یا ... هم باشد ...
 $n+\frac{1}{2} \geq 1 \rightarrow n \geq \frac{1}{2}$

ب) $\sqrt{[n-\frac{1}{2}]} + [\frac{1}{2}-n] \rightarrow [-(n-\frac{1}{2})] D_f = \left\{ n \mid n = k + \frac{1}{2}, k \in \mathbb{Z} \right\}$

الف - ۵: $[n-\frac{1}{2}] + [n+\frac{1}{2}] \geq 0 \rightarrow [n-\frac{1}{2}] + 1 + [n+\frac{1}{2}] \geq 1$

$[n+\frac{1}{2}] + [n+\frac{1}{2}] \geq 1 \rightarrow [n+\frac{1}{2}] \geq \frac{1}{2} \rightarrow n+\frac{1}{2} \geq 1$

$n \geq \frac{1}{2} \rightarrow D_f = \left[\frac{1}{2}, +\infty \right)$

الف) $\frac{\cos n}{\sin n} + 1$ $\frac{\sin n}{\cos n} + 1$ $\sin n \neq 0, \cos n \neq 0, \tan n \neq -1$ $\hookrightarrow n \neq 135, 315$ $D_f = \mathbb{R} - \left\{ \frac{k\pi}{2}, 2k\pi + \frac{\pi}{2}, 2k\pi - \frac{\pi}{2} \right\}$	6
ب) $1 - \epsilon \sin n \geq 0 \rightarrow \epsilon \sin n \leq 1 \quad \sin n \leq \frac{1}{\epsilon} \quad -\frac{1}{\epsilon} \leq \sin n \leq \frac{1}{\epsilon}$ $D_f = \left\{ \left[k\pi + \frac{\pi}{6}, k\pi + \frac{\pi}{6} \right] \right\}$	7
الف) $2 \sin n - 1 \geq 0 \rightarrow \sin n \geq \frac{1}{2} \quad D_f = \left[2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6} \right]$ ب) $1 - 2 \cos n \geq 0 \quad \frac{1}{2} \geq \cos n$ $D_f = \left[2k\pi + \frac{\pi}{3}, 2k\pi + \frac{5\pi}{3} \right]$ نباید آخر بازه از اول بازه کوچکتر باشد!	8
الف) $-1 \leq n^2 + 3n + 1 \leq 1 \rightarrow n^2 + 3n \leq 0$ $\frac{-3}{+b-b+} \quad \frac{-1}{+b-b+}$ $\hookrightarrow n^2 + 3n + 2 \geq 0 \rightarrow (n+1)(n+2) \geq 0$ $(I) [-3, 0] \quad (II) (-\infty, -2] \cup [-1, +\infty)$ $I \cap II \rightarrow [-3, -2] \cup [-1, 0]$ ب) $0 \leq \sqrt{5-2n} \leq 1 \rightarrow 0 \leq 5-2n \leq 1$ $0 \leq 5-2n \leq 1 \rightarrow -4 \leq -2n \leq -6 \rightarrow 2 \leq n \leq 3$ $D_f = [2, 3]$ همواره برقرار است! نسبت به اصل است نسبت به اصل داریم	9
الف) $1 - \log_3 n > 0 \quad 1 > \log_3 n \rightarrow n < 3, n > 0$ $D_f = 0 < n < 3 \quad (0, 3)$ ب) $1 - \log_{\frac{1}{2}} n > 0 \quad 1 > \log_{\frac{1}{2}} n \rightarrow n > \frac{1}{2}, n > 0$ $D_f = \left(\frac{1}{2}, +\infty \right)$	10
$2^{4n-n^2} \geq 2^n \quad 4n-n^2 \geq n \quad n^2+3-4n \leq 0$ $(n-1)(n-3) \leq 0 \quad \frac{1}{+b-b+} \rightarrow D_f = [1, 3]$ ب) $\frac{3n+5}{2n+4} \in \mathbb{W} \quad n \in -\frac{4w-5}{2w-3}$ $D_f = \left\{ n \mid n = \frac{-4k+5}{2k-3}, k \in \mathbb{W} \right\}$	

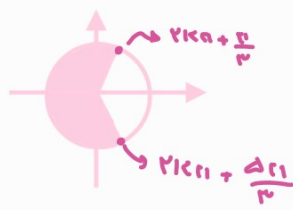
ب- 8 $\sqrt{5-2n} \rightarrow 5-2n \geq 0 \rightarrow n \leq \frac{5}{2}$

$\rightarrow D_f = \left[2, \frac{5}{2} \right]$

$-1 \leq \sqrt{5-2n} \leq 1 \rightarrow 5-2n \leq 1 \rightarrow -2n \leq -4 \rightarrow n \geq 2$

همواره برقرار است ✓

$\checkmark$ - ب) $1 - r_c \sin \gamma_c \geq 0 \rightarrow \sin \gamma_c \leq \frac{1}{r_c}$



$\rightarrow D_{f_c} \left[r_c \gamma_c + \frac{\pi}{r_c}, r_c \gamma_c + \frac{\Delta \gamma_c}{r_c} \right]$