

الف) $(n-1)(n^2+5n-3)$ $R = \{1, -\frac{1}{2}, \frac{1}{3}\}$
 $n^2+5n-3=0$
 $(n+3)(n-1)=0$
 $R = \{-1, 0, -\frac{1}{2}, \frac{1}{3}\}$
 ب) $(n+1)(n^2+7n+3)$ $R = \{-1, -2, -\frac{1}{2}, -3\}$

$$\begin{array}{r} n^2+5n-3 \\ -n^2+5n^2 \\ \hline 5n^2-1n+3 \\ -5n^2+5n^2 \\ \hline -1n+3 \\ +n^2-3 \\ \hline \dots \end{array}$$

$$\begin{array}{r} \frac{n-1}{n^2+5n-3} \\ \frac{n^2+5n-3}{n^2+5n-3} \\ \hline 0 \\ \frac{n^2+5n-3}{n^2+5n-3} \\ \hline 0 \\ \frac{n^2+5n-3}{n^2+5n-3} \\ \hline 0 \\ \dots \end{array}$$

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

ب) $\frac{-3}{+0-1} + (1, +\infty) \cup (-\infty, 3]$

$n^2-5n-11-2n+5 \neq 0 \rightarrow n > 1 \rightarrow n^2-5n+5-2n+5 = n^2-7n+10$
 $n^2+5n-5-2n+5$ if $n < 1$ $n^2+3n \neq 0$ $n(n+3) \neq 0$ $R = \{2, 5\}$
 n^2-2n+5 if $n=1$ $1-2+5=4 \rightarrow \Delta < 0$
 $D_f = R = \{-3, 0, 2, 5\}$

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

ب) $[n]^2-2[n]-3$
 t^2-2t-3
 $(t-3)(t+1)$
 $[n] \neq 3$
 $[n] \neq -1$
 $D_f = \mathbb{R} - \{[3, 4) \cup [-1, 0)\}$

الف) $[n-\frac{1}{p}] + [n+\frac{p}{p}] \geq 0$
 $[n+\frac{p}{p}-1] + [n+\frac{p}{p}] \geq 0$
 $[n+\frac{p}{p}] + [n+\frac{p}{p}] \geq 1$
 $2[n+\frac{p}{p}] \geq 1 \rightarrow [n+\frac{p}{p}] \geq \frac{1}{2} \rightarrow [n+\frac{p}{p}] \geq 1 \rightarrow n+\frac{p}{p} \geq 1$
 ب) $[n-\frac{1}{p}] + [\frac{1}{p}-n] \geq 0$
 $[n'] + [-n'] \geq 0 \rightarrow n' \in \mathbb{Z}$
 $D_f = \{n \mid n = k + \frac{1}{p}, k \in \mathbb{Z}\}$

الف) $y = \frac{\cos x}{\sin x} + 1$ $\frac{\sin x}{\cos x} + 1 \neq 0$ $\frac{\sin x}{\cos x} \neq -1$ $R = \{ \frac{k\pi}{\pi}, \frac{k\pi}{\pi} \}$

$\frac{\sin m}{\cos m} + 1$ $\sin m \neq 0$ $\cos m \neq 0$

$k\pi + \frac{\pi}{2}$ $k\pi - \frac{\pi}{2}$

ب) $1 - \sin^2 m > 0$

$\sin^2 m \leq 1 \rightarrow \sin^2 m \in [\frac{1}{2}, 1] \rightarrow \sin m \in [\frac{1}{\sqrt{2}}, 1]$

$\{ [k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4}] \}$

الف) $\sqrt{\sin m} - 1 > 0 \rightarrow \sqrt{\sin m} > 1 \rightarrow \sin m > 1$

$\{ [2k\pi + \frac{\pi}{2}, 2k\pi + \frac{3\pi}{2}] \}$

ب) $1 - \sqrt{\cos m} > 0 \rightarrow \sqrt{\cos m} \leq 1 \rightarrow \cos m \leq \frac{1}{4}$

انتی باره بنیاد از ابتدای بازه کوچک می باشد

$P_f = [2k\pi + \frac{\pi}{4}, 2k\pi - \frac{\pi}{4}]$

الف) $-1 \leq n^2 + 3n + 1 \leq 1 \rightarrow n^2 + 3n + 1 \leq 1 \rightarrow n^2 + 3n \leq 0 \rightarrow n(n+3) \leq 0$

$n^2 + 3n + 1 > -1 \rightarrow n^2 + 3n + 2 > 0 \rightarrow (n+1)(n+2) > 0$

$I \cap I = [-2, -1] \cup [1, 2]$

ب) $\sqrt{5 - 2n} < 1 \rightarrow 5 - 2n < 1 \rightarrow n > 2$

$\sqrt{5 - 2n} < 1 \rightarrow 5 - 2n < 1 \rightarrow n > 2$

$P_f = [2, 3]$

$1 - \log_n > 0 \rightarrow \log_n < 1 \rightarrow n < 3, n > 0$

الف) $\rightarrow$

ب) $1 - \log_{\frac{1}{n}} > 0 \rightarrow \log_{\frac{1}{n}} < 1 \rightarrow n > \frac{1}{3}, n > 0$

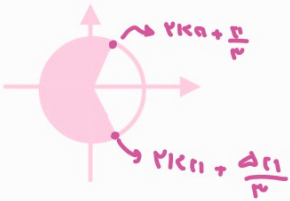
الف) $\sqrt{m - n^2} - 1 > 0 \rightarrow \sqrt{m - n^2} > 1 \rightarrow m - n^2 > 1$

$\{ [1, 3] \}$

ب) $\frac{m + \omega}{m + \varepsilon} \in W \xrightarrow{W} m \in -\frac{\varepsilon W - \omega}{\varepsilon W - \omega}$

$P_f = \{ m \mid m = -\frac{\varepsilon W - \omega}{\varepsilon W - \omega}, k \in W \}$

ب-۷) $1 - r \cos n \geq 0 \rightarrow \cos n \leq \frac{1}{r}$



$\rightarrow D_{f_c} \left[rkn + \frac{\pi}{r}, rkn + \frac{2\pi}{r} \right]$

ب-۸) $\sqrt{\omega - rn} \rightarrow \omega - rn \geq 0 \rightarrow n \leq \frac{\omega}{r}$

$\xrightarrow{\wedge} D_{f_c} \left[r, \frac{\omega}{r} \right]$

$\underbrace{-1 \leq \sqrt{\omega - rn} \leq 1}_{\text{همواره برقرار است}} \rightarrow \omega - rn \leq 1 \rightarrow -rn \leq -L \rightarrow n \geq r$