



۲

3

۳

5

$$D_f = \mathbb{R} - \{-1\}$$

الف) $n^2 - 1 \geq 0$ $n^2 \geq 1$ $n \geq 1$ $n \leq -1$
 $n - 1 \geq 0$ $n \geq 1$ $D_f = [1, +\infty)$

ب) $4 - 3n \geq 0$ $n \leq \frac{4}{3}$
 $4n - 3 > 0$ $n > \frac{3}{4}$ $D_f = (\frac{3}{4}, \frac{4}{3}]$

$12 - a = 0$ $a = 12$
 $b - 9 = 0$ $b = 9$

$\frac{b}{a} = \frac{9}{12} = \frac{3}{4}$

$\begin{pmatrix} 9 & 3 \\ n-12 & n-4 \end{pmatrix}$

چرا جدول خف نذاره؟ از کجا اومده؟

الف) $n^3 - n - 6 \geq 0$

$n^3 - 12n^2 + 12n + 6$
 $+ 2 - 12 + 12$
 $(n-2)(n-3)(n+1)$
 $n = \pm \sqrt{2}$ $n = \pm 2$

$+ \frac{1}{n} + \frac{1}{n} = \frac{1}{n} + \frac{1}{n} - \frac{1}{n} + \frac{1}{n}$

$D_f = (-\infty, -2) \cup (\sqrt{2}, 2) \cup [3, +\infty)$

1, 2, 3

ب)

$(n-1)(n-3)(n+1)$
 $n^3 - 2n^2 - 3n + 6 \geq 0$
 $n^3 + 2n^2 - 3n - 6 \geq 0$
 $(n+1)(n+3)(n-2)$

$+ \frac{-3}{1} - \frac{-2}{n} + \frac{-1}{n} - \frac{1}{n} + \frac{1}{n} - \frac{1}{n}$
 $D_f = (-\infty, -3) \cup [-2, -1) \cup [1, 2) \cup (3, +\infty)$

الف) $2[n] - 4 \geq 0$ $[n] \geq 2$ $D_f = [2, +\infty)$

ب) $2[n] - 5 \geq 0$ $[n] \geq \frac{5}{2}$ $D_f = [\frac{5}{2}, +\infty)$

الف) $\frac{n+1}{|n-3|} \geq 0$

$-\frac{1}{n} + \frac{1}{n}$

$\frac{4-n}{n^2+2n+4} \geq 0$

$+\frac{4}{n} - \frac{1}{n}$

$D_f = [-3, 4) \cup (4, 9]$

1, 2, 3

ب)

$[n] - 4 \geq 0$ $[n] \geq 4$ $n \geq 4$
 $4 - [n] \geq 0$ $[n] \leq 4$ $n < 4$

$D_f = (3, 4]$

الف- ۸) $y = \sqrt{\frac{n^2 - n - 4}{n^4 - 13n^2 + 34}} \leadsto \frac{n^2 - n - 4}{n^4 - 13n^2 + 34} \geq 0 \leadsto \frac{(n-3)(n+2)}{(n^2-9)(n^2-4)} \geq 0$

$$\frac{(n-3)(n+2)}{(n-3)(n+3)(n-2)(n+2)} \geq 0 \leadsto \frac{-3 \quad -2 \quad 2 \quad 3}{+ \cancel{0} - \cancel{0} - \cancel{0} + \cancel{0} +}$$

$D_f = (-\infty, -3) \cup (2, 3) \cup (3, +\infty)$

ب- ۱۰) $y = \sqrt{[n]-4} + \sqrt{2-[n]}$

$\xrightarrow{I \cap II} D_f = \emptyset$ همچو عددی نداریم نه از ۴ بزرگتر و ۳ کمتر

$$\begin{cases} [n]-4 \geq 0 \rightarrow n \geq 4 \text{ I} \\ \quad \hookrightarrow [n] \geq 4 \\ 2-[n] \leq 0 \rightarrow n \leq 3 \text{ II} \\ \quad \hookrightarrow [n] \leq 2 \end{cases}$$