

الف) $y = \sqrt{\frac{n(n-4)}{n(n-1)(n+1)}}$

$\frac{-1}{-} \frac{0}{+} \frac{4}{+}$

$D_f = (-1, 0) \cup (0, 1) \cup [4, +\infty)$

ب) $y = \sqrt{\frac{n^2(n-1)(n+1)}{n(n-1)(n+1)}}$

$\frac{-1}{+} \frac{0}{+} \frac{4}{+}$

$D_f = \mathbb{R} - \{-1, 0, 1\}$

الف) $y = \frac{n+1}{\sqrt{n+|n|}}$

$D_f = (0, +\infty)$

ب) $y = \frac{1}{\sqrt{n|n|}}$

$D_f = (0, +\infty)$

الف) $y = \sqrt{2 - [n]}$

$[n] \leq 2 \rightarrow D_f = (-\infty, 3)$

ب) $y = \frac{1}{\sqrt{2 - [n]}}$

$[n] < 2$

$D_f = (-\infty, 2)$

الف) $[n + \frac{1}{p}] + [n - \frac{1}{p}] \geq 0$

$[n + \frac{1}{p}] = [n - \frac{1}{p}] + 1$

$[n - \frac{1}{p}] \geq 0$

$D_f = [\frac{1}{p}, +\infty)$

ب) $[-n + \frac{1}{p}] + [n - \frac{1}{p}] \geq 0$

$[-a] + [a] = \begin{cases} a \in \mathbb{Z} \rightarrow 0 \\ a \notin \mathbb{Z} \rightarrow -1 \end{cases}$

$\frac{1}{p} + n \in \mathbb{Z}$

$D_f = \{\frac{1}{p} + K, K \in \mathbb{Z}\}$

الف) $\sin n - 1 \neq 0$

$n \neq 90^\circ$

$D_f = \mathbb{R} - \{\frac{\pi}{2} + 2K\pi\}$

ب) $\sin^2 n - 1 \neq 0$

$\sin^2 n \neq \frac{1}{4}$

$\sin n \neq \pm \frac{\sqrt{2}}{2}$

$D_f = \mathbb{R} - \{\frac{\pi}{4} + K\pi\}$

الف) $2 \sin x - 1 > 0$ $2 \sin x > 1$ $\sin x > \frac{1}{2}$ $D_f = \left[\frac{\pi}{6} + 2K\pi, \frac{5\pi}{6} + 2K\pi \right]$ ✓	ب) $\cos x - 1 > 0$ $\cos x > 1$ المتغيرين $\sin$ و $\cos$، يك من با شتر. $D_f = 2K\pi$	6
الف) متغیر $\sin$ و $\cos$ همیشه بین -1 و 1 است. $-1 < u < 4 \xrightarrow{+3} 2 < u < 4$ $D_f = [-4, -2] \cup [2, 4]$ ✓	ب) $-1 < u^2 + 3u + 1 < 1$ $u^2 + 3u + 1 > 0$ $u^2 + 3u + 1 < 1$ $(u+1)(u+2) > 0$ $u^2 + 3u < 0$ $u(u+3) < 0$ $D_f = [-3, -2] \cup [-1, 0]$	7
الف) $\log_p (n-2)$ $n-2 > 0$ $n > 2$ $2 - \log_p (n-2) > 0$ $\log_p (n-2) < 2$ $n-2 < p^2$ $n-2 < 9$ $n < 11$ $D_f = (2, 11]$ ✓	ب) $\log (u^3 - u)$ $u^3 - u > 0$ $u(u-1)(u+1) > 0$ $D_f = (-1, 0) \cup (1, +\infty)$	8
الف) $x^n + 1 \neq 0$ $x^n \neq -1$ $D_f = \mathbb{R}$	ب) $x^n - 1 \neq 0$ $x^n \neq 1$ $x \neq 0$ $D_f = \mathbb{R} - \{0\}$	9
ج) $x^n - 2 \neq 0$ $x^n \neq 2$ $n \neq 0, \delta \neq 0$ $D_f = \mathbb{R} - \left\{ \frac{1}{x} \right\}$	د) $x^n - 3 \neq 0$ $x^n \neq 3$ $D_f = \mathbb{R} - \{ \log x \}$	
الف) $x_{n+1} \in \omega$ $x_n \in \omega - 1$ $n \in \frac{\omega - 1}{x}$ $D_f = \left\{ n \mid n = \frac{K-1}{x}, K \in \omega \right\}$ ✓	ب) $\frac{x_n - 2}{x_n - \delta} \in \omega$ $x_n - 2 \in \omega(x_n - \delta)$ $x_n - 2 \in x_n \omega - \delta n$ $x_n - x_n \omega \in 2 - \delta n$ $x_n(1 - \omega) \in 2 - \delta n$ $n = \frac{2 - \delta \omega}{x(1 - \omega)}$ $D_f = \left\{ n \mid n = \frac{\delta K - 2}{x(1 - \omega)}, K \in \omega \neq 1 \right\}$	10