

(د)	(ع)	(ب)	(ا)	۱
(د) $(n-1)(n-4) \leq 0$	(ع) $(n+1)(n-1) \geq 0$	(ب) $(n-1)(n-5) < 0$	(ا) $n^2 - 5n + 4 > 0$ $(n-1)(n-4) > 0$	۲
$[1, 4]$	$(-\infty, -1] \cup [1, +\infty)$	$(1, 5)$	$(-\infty, 1) \cup (4, +\infty)$	
(ب)	(ا)			۳
$\frac{(n-1)(n+1)}{(n-1)(n-5)} \geq 0$	$\frac{(n-1)(n-2)}{(n-5)} < 0$			
$\Rightarrow (\infty, +\infty) \cup (-\infty, -1]$	$\Rightarrow (1, 2) \cup (-\infty, 1)$			
(ب)	(ا)			۴
$\frac{(n-4)(n+4)}{(n-1)(n-4)} \geq 0$	$\frac{n^3 - 1}{n^3 - n} \geq 0$			
	$n^3 - 1 = 0 \Rightarrow n^3 = 1 \Rightarrow n = 1$ $n^3 - n = n(n^2 - 1) = n(n-1)(n+1)$ $n = 0, 1, -1$			
$P_f = (-\infty, -4] \cup (1, 4) \cup (4, +\infty)$	$P_f = (-\infty, -1) \cup (0, 1) \cup (1, +\infty)$			
(ب)	(ا)			۵
$3 - \sqrt{n-2} \geq 0 \Rightarrow \sqrt{n-2} \leq 3$	$4 - \sqrt{2-n} \geq 0 \Rightarrow \sqrt{2-n} \leq 4$			
$n-2 \leq 9 \Rightarrow n \leq 11$	$2-n \leq 16 \Rightarrow n \geq -14$			
$n-2 \geq 0 \Rightarrow n \geq 2$	$2-n \geq 0 \Rightarrow n \leq 2$			
$P_f = [2, 11]$	$P_f = [-14, 2]$			

$r - r^2 \geq 0$ $r^2 \leq r$ $r \leq 1$ $-\sqrt{r} \leq x \leq \sqrt{r} \Rightarrow [-\sqrt{r}, \sqrt{r}]$	(و)	$r^2 x - 1 \geq 0$ $r^2 x \geq 1$ $ x \geq \frac{1}{r}$ $x \geq \frac{1}{r} \Rightarrow [\frac{1}{r}, +\infty) \cup (-\infty, -\frac{1}{r}]$ $x \leq -\frac{1}{r}$	(ب)	٤
$ x \neq r$ $x \neq \pm r \Rightarrow D_f = \mathbb{R} - \{\pm r\}$	(و)	$x \geq 0$ $\sqrt{x} \neq r \Rightarrow D_f = [0, r) \cup (r, +\infty)$ $x \neq r$	(ب)	٥
$r \cos x - 1 \neq 0$ (و) $r \cos x \neq 1$ $\cos x \neq \frac{1}{r}$ $D_f = \mathbb{R} - \{kx \pm \frac{x}{r}\}$		$r \sin x + 1 \neq 0$ (ب) $r \sin x \neq -1$ $\sin x \neq -\frac{1}{r}$ $D_f = \mathbb{R} - \{kx + \frac{\sqrt{1-r^2}}{r}, kx + \frac{11x}{4}\}$		
		$\cot x - 1 \neq 0$ (ج) $\cot x \neq 1$ $\cos \neq \sin$ $D_f = \mathbb{R} - \{kx, kx + \frac{\pi}{r}, kx + \frac{x}{r}\}$		
		$r^2 \sin^2 x - r^2 \neq 0$ (د) $r^2 \sin^2 x \neq r^2$ $\sin^2 x \neq \frac{r^2}{r^2}$ $\sin x \neq \pm \frac{\sqrt{r}}{r}$ $D_f = \mathbb{R} - \{kx \pm \frac{x}{r}\}$		٨
$r x - r - \frac{1}{r} > 0$ $\Rightarrow r x - r > \frac{1}{r}$ $\Rightarrow x - r > \frac{1}{r^2} \rightarrow \begin{cases} x - r > \frac{1}{r^2} \rightarrow x > \frac{r^2 + 1}{r^2} \\ x - r < -\frac{1}{r^2} \rightarrow x < \frac{r^2 - 1}{r^2} \end{cases}$				٩
$r - r x \geq 0$ $r x \leq r$ $ x \leq 1$ $-1 \leq x \leq 1 \Rightarrow D_f = [-1, 1]$	(و)	$\frac{ x }{ x } \geq 0 \rightarrow \text{مطلوبه}$ $x \neq 0 \Rightarrow D_f = \mathbb{R} - \{0\}$	(ب)	١٠