

نام و نام خانوادگی : مصداقسلور

c) $\cos x \neq 1 \Rightarrow$  $\rightarrow D_f = \mathbb{R} - \{2k\pi\}$

ب) $\begin{cases} \cot \alpha \neq 1 \\ \sin \alpha \neq 0 \end{cases} \rightarrow$  $\rightarrow \cot \alpha \neq 1 \rightarrow D_f = \mathbb{R} - \left\{ k\pi, k\pi + \frac{\pi}{2} \right\}$

ج) I $n \geq 0$
 II $-1 \leq \sqrt{n} - 1 \leq 1 \rightarrow 1 \leq \sqrt{n} \leq 2 \rightarrow 1 \leq n \leq 4 \Rightarrow D_f = \{1, 4\}$

ب) $\begin{cases} \rightarrow x^{r+1} + y^{r+1} \leq 1 \rightarrow x^r + y^r \leq 0 \rightarrow \frac{x^r}{y^r} \leq -1 \quad (I) \\ \rightarrow x^{r+1} + y^{r+1} \geq -1 \rightarrow x^r + y^r \geq 0 \rightarrow \frac{x^r}{y^r} \geq -1 \quad (II) \end{cases}$

الف) $x^r - \varepsilon > 0 \Rightarrow x^r > \varepsilon \Rightarrow x > \varepsilon \Rightarrow D_f = (-\infty, -\varepsilon) \cup (\varepsilon, +\infty)$

(الف) $\rightarrow \omega > m$
 $\downarrow \rightarrow m \geq \mu$
 $x - \mu + 1 \rightarrow m \neq k$

$\Rightarrow D_{\neq} = (\mu, \omega) - \{k\}$

$x - y \neq 1 \rightarrow x \neq y + 1$
 ب) $\rightarrow x - 1 > 0 \rightarrow (x - 1)(y + 1) > 0 \rightarrow \frac{-1}{+1} \frac{+1}{-1}$
 $\downarrow$
 $x + y > 0 \rightarrow x > -y$
 $x + y \neq 1 \rightarrow x \neq -y$

$$\text{أ) } \frac{(x-1)(m-1)}{x-1} > 0 \rightarrow \frac{1}{1+\frac{1}{x}} \rightarrow D_f = (1, 1^+) \cup (1^+, +\infty)$$

V

$$\text{ب) } \frac{x+1}{x-1} > 0 \rightarrow \frac{-1}{1+\frac{1}{x}} \rightarrow (-\infty, -1) \cup (1, +\infty) \quad \text{(I)}$$

$$\downarrow \begin{aligned} & x+1 > 0 \rightarrow x > -1 \rightarrow (-1, +\infty) \quad \text{(II)} \\ & x+1 \neq 1 \rightarrow x \neq 0 \quad \text{(III)} \end{aligned}$$

$$D_f = \text{I} \cap \text{II} \cap \text{III} = (-1, -1) \cup (-1, 0) \cup (0, 1) \cup (1, +\infty)$$

$$\text{أ) } \rightarrow x > 1 \quad \text{(I)}$$

$$\downarrow x - \log_v^{(m-1)} \geq 0 \rightarrow x \geq \log_v^{(m-1)} \rightarrow x \geq m-1 \rightarrow 1 < x \leq m \quad \text{(II)}$$

$$\Rightarrow \text{(I)} \cap \text{(II)} \rightarrow D_f = (1, m]$$

A

$$\text{ب) } \text{(I)} \quad x > 0$$

$$\text{(II)} \quad x \log_v^m - 1 > 0 \rightarrow \log_v^m > \frac{1}{x} \rightarrow x > \frac{1}{\log_v^m} \rightarrow x > \sqrt[m]{v}$$

$$D_f = (\sqrt[m]{v}, +\infty)$$

$$\text{أ) } x^m + 1 \neq 0 \rightarrow x^m \neq -1 \quad \checkmark \Rightarrow D_f = \mathbb{R}$$

$$\text{ب) } x^m - 1 \neq 0 \rightarrow x^m \neq 1 \rightarrow x \neq 1 \Rightarrow D_f = \mathbb{R} - \{1\}$$

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$$\text{ج) } x^m - x \neq 0 \rightarrow x^m \neq x \rightarrow x \neq \frac{1}{x} \Rightarrow D_f = \mathbb{R} - \left\{\frac{1}{x}\right\}$$

$$\text{د) } x^m - v \neq 0 \rightarrow x^m \neq v \rightarrow x \neq \log_v^m \Rightarrow D_f = \mathbb{R} - \{\log_v^m\}$$

$$\text{أ) } km + 1 \in W \rightarrow m \in \frac{W-1}{k} \Rightarrow D_f = \{m \mid m = \frac{k-1}{k}, k \in W\}$$

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$$\text{ب) } \frac{km-1}{m-1} \in W \rightarrow km-1 \in kW - \omega W \rightarrow km - km \in kW - \omega W$$

$$m(k - \omega) \in kW - \omega W$$

$$\Leftrightarrow m \in \frac{k - \omega W}{k - \omega}$$

$$D_f = \{m \mid m = \frac{\omega k - 1}{k - \omega}, k \in W\}$$

(ب) روش دیگر برای جواب :

$$\frac{km - 1}{m - \omega} \in W \rightarrow \frac{-(-\omega W + 1)}{kW - 1} = m \Rightarrow \frac{\omega W - 1}{kW - 1} = m \Rightarrow D_f = \{m \mid m = \frac{\omega k - 1}{k - \omega}, k \in W\}$$