

نام و نام خانوادگی: مهنا سلور
استفاده ششتری تلف شماره ۵
طاس دوم
دختر

۲۰ آذرین!

الف) $\sqrt{\cos x + 1} \neq 0 \rightarrow \cos x \neq -\frac{1}{\sqrt{2}} \rightarrow \bigcirc \Rightarrow D_f = \mathbb{R} - \left\{ 2k\pi + \frac{3\pi}{4}, 2k\pi + \frac{5\pi}{4} \right\}$

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

الف) $\begin{cases} \tan x \neq -1 \\ \cos x \neq 0 \end{cases} \rightarrow \bigcirc \rightarrow D_f = \mathbb{R} - \left\{ k\pi + \frac{\pi}{4}, k\pi - \frac{\pi}{4} \right\}$

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

الف) $-1 \leq x^2 - 2 \leq 1 \rightarrow 1 \leq x^2 \leq 3 \rightarrow 1 \leq x \leq \sqrt{3} \rightarrow D_f = [-\sqrt{3}, -1] \cup [1, \sqrt{3}]$

ب) I $x \geq 0$
II $-1 \leq \sqrt{x} - 3 \leq 1 \rightarrow 2 \leq \sqrt{x} \leq 4 \rightarrow 4 \leq x \leq 16 \Rightarrow D_f = [4, 16]$

الف) $-1 \leq |x| - 3 \leq 1 \rightarrow 2 \leq |x| \leq 4 \rightarrow 2 \leq x \leq 4 \rightarrow D_f = [-4, -2] \cup [2, 4]$

ب) $\begin{cases} \rightarrow x^2 + 3x + 1 \leq 1 \rightarrow x^2 + 3x \leq 0 \rightarrow x(x+3) \leq 0 \text{ (I)} \\ \rightarrow x^2 + 3x + 1 \geq -1 \rightarrow x^2 + 3x + 2 \geq 0 \rightarrow (x+1)(x+2) \geq 0 \text{ (II)} \end{cases}$
 $\rightarrow \text{(I)} \frac{-3}{+} \frac{0}{+} \frac{+}{+} \text{ و } \text{(II)} \frac{-2}{+} \frac{-1}{+} \frac{+}{+} \Rightarrow D_f = \text{I} \cap \text{II} \Rightarrow D_f = [-3, -2] \cup [-1, 0]$

الف) $x^2 - 4 > 0 \rightarrow x^2 > 4 \rightarrow \begin{matrix} x > 2 \\ x < -2 \end{matrix} \Rightarrow D_f = (-\infty, -2) \cup (2, +\infty)$

ب) $2 - |x| > 0 \rightarrow 2 > |x| \rightarrow 2 > x > -2 \Rightarrow D_f = (-2, 2)$

الف) $\rightarrow \omega > x$
 $\downarrow x > 3$
 $x - 1 \neq 1 \rightarrow x \neq 2$
 $\Rightarrow D_f = (3, \omega) - \{2\}$

ب) $\rightarrow x^2 - 1 > 0 \rightarrow (x-1)(x+1) > 0 \rightarrow \frac{-1}{+} \frac{1}{+} \frac{+}{+}$
 $\downarrow x + 3 > 0 \rightarrow x > -3$
 $x + 3 \neq 1 \rightarrow x \neq -2$
 $\Rightarrow D_f = (-3, -2) \cup (-2, -1) \cup (1, +\infty)$

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

V

$$\text{ب) } \frac{x+1^m}{x-1} > 0 \rightarrow \frac{-1}{1+\frac{1}{x}} \rightarrow (-\infty, -1^m) \cup (1^m, +\infty) \quad \text{D}_f = \text{I} \cap \text{II} \cap \text{III}$$

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

$$(-1, -1^m) \cup (-1^m, +\infty)$$

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

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

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

A

$$\text{ب) } \text{(I)} \quad x > 0$$

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

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

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

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

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

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

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

$$\text{ب) } \frac{km - 1}{km - \omega} \in W \rightarrow km - 1 \in km - \omega \rightarrow km - km \in km - \omega \rightarrow 0 \in km - \omega$$

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

$$m(k - 1^m) \in km - \omega$$

$$\checkmark m \in \frac{km - \omega}{k - 1^m}$$

$$\frac{km - \omega}{k - 1^m} = \omega - \frac{\omega - 1^m}{k - 1^m}$$

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