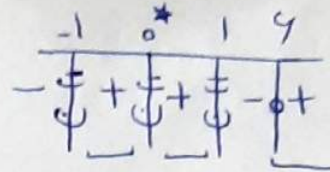


۱۹، ۲۸

الف)  $y = \sqrt{\frac{x^2 - 4x}{x^2 - x}} \Rightarrow \frac{x^2 - 4x}{x^2 - x} \geq 0 \rightarrow \frac{x(x-4)}{x(x-1)} \geq 0$



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

✓

ب)  $y = \sqrt{\frac{x^2 - x^3}{x^2 - x}} \Rightarrow \frac{x^2(x-1)}{x(x-1)} \geq 0 \rightarrow \frac{-1}{+} + \frac{0}{+} + \frac{+1}{+} +$

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

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

الف)  $y = \frac{x+1}{\sqrt{x+|x|}} \Rightarrow x+|x| > 0 \rightarrow \begin{matrix} -x \rightarrow - \\ x \rightarrow + \end{matrix} \Rightarrow D_f = \mathbb{R}^+$

۱، ۷، ۸

✓

ب)  $\frac{1}{\sqrt{x|x|}} \Rightarrow x|x| > 0 \rightarrow \begin{matrix} -x \rightarrow - \\ x \rightarrow + \end{matrix} \Rightarrow D_f = \mathbb{R}^+ \cup \{0\}$

صفر مخرج را حذف شده می‌نند

الف)  $y = \sqrt{2 - [x]} \Rightarrow 2 - [x] \geq 0 \Rightarrow [x] \leq 2 \rightarrow D_f = (-\infty, 3)$

✓

ب)  $y = \frac{1}{\sqrt{2 - [x]}} \Rightarrow 2 - [x] > 0 \Rightarrow [x] < 2 \rightarrow D_f = (-\infty, 2)$

الف)  $y = \sqrt{[x - \frac{1}{p}] + [x + \frac{p}{p}]} \Rightarrow [x - \frac{1}{p}] + [x + \frac{p}{p}] \geq 0 \rightarrow [x - \frac{1}{p} + \frac{p}{p}] + [x + \frac{p}{p}] \geq 1 \rightarrow 2[x + \frac{p}{p}] \geq 1$

$\Rightarrow [x + \frac{p}{p}] \geq \frac{1}{2} \rightarrow x + \frac{p}{p} \geq 1 \rightarrow x \geq \frac{1}{p} \rightarrow D_f = [\frac{1}{p}, +\infty)$

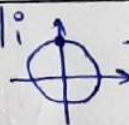
✓

ب)  $\sqrt{[x - \frac{1}{p}] + [x + \frac{1}{p}]} \Rightarrow \begin{cases} a \in \mathbb{Z} \rightarrow a + [a] = 0 \\ a \notin \mathbb{Z} \rightarrow a + [-a] = -1 \end{cases} \Rightarrow [x - \frac{1}{p}] + [-(x - \frac{1}{p})] \geq 0$

$D_f = \{x | x = k + \frac{1}{p}, k \in \mathbb{Z}\}$



الف)  $y = \frac{p}{\sin \pi - 1} \Rightarrow \sin \pi - 1 \neq 0 \Rightarrow \sin \pi \neq 1 \Rightarrow D_f = \mathbb{R} - \{2k\pi + \frac{\pi}{2}\}$



✓

ب)  $y = \frac{p}{p \sin^2 \pi - 1} \Rightarrow p \sin^2 \pi - 1 \neq 0 \Rightarrow p \sin^2 \pi \neq 1$

$\sin^2 \pi \neq \frac{1}{p} \rightarrow \sin \pi \neq \pm \frac{1}{\sqrt{p}} \times \frac{\sqrt{p}}{\sqrt{p}} = \pm \frac{1}{\sqrt{p}}$

$D_f = \mathbb{R} - \{k\pi + \frac{\pi}{\sqrt{p}}\}$



$$\begin{aligned} \psi \sin \pi - 1 &\geq 0 \\ \psi \sin \pi &\geq 1 \\ \sin \pi &\geq \frac{1}{\psi} \end{aligned}$$



$$D_f = \left[ \frac{\pi}{4} + 2K\pi, \frac{5\pi}{4} + 2K\pi \right]$$

$$\hookrightarrow y = \sqrt{\cos x - 1} \quad \begin{matrix} \cos x \geq -1, 0 & -1 \leq \cos x \leq 1 \\ \cos x \geq 1 & \rightarrow \cos x = 1 \end{matrix}$$



$$P_f = \{4K\pi\}$$

الف)  $\cos y = |x| - 3$   $-1 \leq \cos y \leq 1 \rightarrow -1 \leq |x| - 3 \leq 1$   $D_f = [-5, -2] \cup [2, 5]$   
 $x \geq -2$   $x \leq 2$   $-2 \leq x \leq 2$   $|x| \leq 5 \rightarrow -5 \leq x \leq 5$

$$\hookrightarrow y = \arcsin(n^p + {}^p n + 1)$$

$$-1 \leq x_{n+1} \leq 1$$

$$(-\infty, -1] \cup [-1, +\infty)$$

$$-1 \leq 2c^p + 1^n + 1 \leq 1$$

$$p_f = [-1, -1]^T \vee [1, 0]^T \Leftarrow$$

$$\circ \leq (n+1)(n+2)$$

$$x^2 + 3x + 1 \leq 1$$

$$n(n+1) \leq 0$$

الف)  $y = \sqrt{y - \log_3(x-y)}$

$$P - \log_{\mu}^{(n-r)} \gg 0 \rightarrow \log_{\mu}^{(n-r)} \leq P \rightarrow n-r \leq 9 \rightarrow n \leq 11$$

$$\log_r (n-r) \rightarrow n-r > 0 \rightarrow n > r \Rightarrow P_f = (r, 11]$$

—)  $y = \log(n^w - n)$

$$n^k - n > 0$$

$$n(n^2-1) > 0 \rightarrow D_f = (-1, 0) \cup (1, +\infty)$$

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$$\begin{array}{ccccccc} & -1 & 0 & 1 & & & \\ \hline - & 0 & + & 0 & - & 0 & + \end{array}$$

$$y = \frac{10}{x+1}$$

$$\epsilon^n + 1 \neq 0 \rightarrow \epsilon^n \neq -1 \rightarrow D_f = \mathbb{R}$$

$$1) y = \frac{r}{\varepsilon^{n-r}} \Rightarrow f_{-r}^{n-r} \neq 0$$

$$b) y = \frac{x}{x^n - 1}$$

$$f^n - 1 \neq 0 \rightarrow f^n \neq 1 \rightarrow n \neq 0 \rightarrow \mathbb{R} - \{0\}$$

$$\rightarrow P_f = 1R - \left\{ \log_{\epsilon}^{\mu} \right\}$$

$$c) y = \frac{\mu}{x^{\alpha-1}}$$

$$\xi^\gamma - \gamma \neq 0 \rightarrow \xi^\gamma \neq \gamma \rightarrow \mathcal{N} \neq \log_{\xi}^{\gamma} = \frac{1}{\gamma} \rightarrow D_f = \mathbb{R} - \left\{ \frac{1}{\gamma} \right\}$$

الف)  $y = (x+1)!$

$$(n+1) \in W$$

$$\{n \in W - 1$$

$$n \in \frac{w-1}{f}$$

$$\rightarrow p_f = \left\{ n \mid n = \frac{k-1}{f}, k \in W \right\}$$

$$\rightarrow y = \left( \frac{3n-4}{2n-2} \right)!$$

$$\frac{v_{n-1}}{v_n} \in W \rightarrow$$

$$\gamma n W - \omega W = \gamma n - \gamma$$

$$V_{\text{max}} = W_{\text{max}} \cdot \Delta W \cdot P$$

$$\frac{17W - 17 = 0}{-17 + 17W}$$

$$P_F = \{n \mid n = \frac{\omega K - r}{-r + rK}, K \in W\} \leftarrow n = \frac{\omega W - r}{-r + rW}$$