

کلیف سرب

سؤال اول

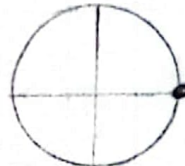
الف) $2\cos\alpha + 1 \neq 0 \Rightarrow \cos\alpha \neq -\frac{1}{2} \Rightarrow \cos\alpha \neq -\frac{1}{2}$



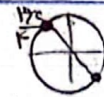
سؤال اول:

$$D_f = \mathbb{R} - \left\{ 2k\pi + \frac{2\pi}{3}, 2k\pi - \frac{2\pi}{3} \right\}$$

ب) $\cos\alpha - 1 \neq 0 \Rightarrow \cos\alpha \neq 1 \Rightarrow D_f = \mathbb{R} - \{2k\pi\}$



الف: $\left\{ \begin{array}{l} I: \tan\alpha + 1 \neq 0 \Rightarrow \tan\alpha \neq -1 \\ II: \cos\alpha \neq 0 \end{array} \right\} \Rightarrow D_f = \mathbb{R} - \left\{ k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4} \right\}$



ب) $\left\{ \begin{array}{l} I: \cot\alpha - 1 \neq 0 \Rightarrow \cot\alpha \neq 1 \\ II: \sin\alpha \neq 0 \end{array} \right\} \Rightarrow D_f = \mathbb{R} - \left\{ k\pi, k\pi + \frac{\pi}{4} \right\}$



سؤال سه: $-1 < \alpha^2 - 2 < 1 \Rightarrow 1 < \alpha^2 < 3 \Rightarrow \begin{cases} 1 < \alpha < \sqrt{3} \\ -1 < \alpha < -\sqrt{3} \end{cases}$

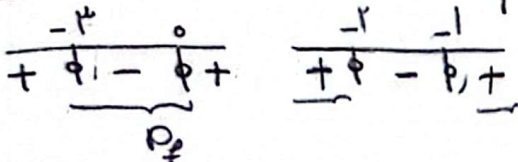
$\Rightarrow D_f = [1, \sqrt{3}] \cup [-\sqrt{3}, -1]$

ب) $-1 < \sqrt{\alpha} - 2 < 1 \Rightarrow 1 < \sqrt{\alpha} < 3 \Rightarrow 1 < \alpha < 9 \Rightarrow D_f = [1, 9]$

سؤال چهار: اجتماع $\begin{cases} 2 < \alpha < 4 \\ -2 < \alpha < -4 \end{cases} \Rightarrow D_f = [2, 4] \cup [-4, -2]$

ب) $-1 < \alpha^2 + 3\alpha + 1 < 1 \Rightarrow \begin{cases} \alpha^2 + 3\alpha + 1 < 1 \Rightarrow \alpha^2 + 3\alpha < 0 \Rightarrow \alpha(\alpha + 3) < 0 \\ \alpha^2 + 3\alpha + 1 > -1 \Rightarrow \alpha^2 + 3\alpha + 2 > 0 \Rightarrow (\alpha + 1)(\alpha + 2) > 0 \end{cases}$

①



اشترک

$D_f = [-3, -2] \cup [-1, 0]$

سؤال پنج: $\alpha^2 - 4 > 0 \Rightarrow \alpha^2 > 4 \Rightarrow -2 < \alpha < 2 \Rightarrow D_f = (-\infty, -2) \cup (2, +\infty)$

ب) $2 - |\alpha| > 0 \Rightarrow |\alpha| < 2 \Rightarrow -2 < \alpha < 2 \Rightarrow D_f = (-2, 2)$

الف) $\left. \begin{aligned} x - 1 > 0 &\Rightarrow x < \infty \\ x - 1 > 0 &\Rightarrow x > 1 \\ x - 1 \neq 1 &\Rightarrow x \neq 2 \end{aligned} \right\} \Rightarrow D_f = (1, \infty) - \{2\}$ (سؤال ٦)

ب) $\left. \begin{aligned} x^2 - 1 > 0 &\Rightarrow x^2 > 1 \Rightarrow -1 < x < 1 \\ x + 1 > 0 &\Rightarrow x > -1 \\ x + 1 \neq 1 &\Rightarrow x \neq 0 \end{aligned} \right\} \Rightarrow D_f = (-1, 0) \cup (0, 1) - \{-1\}$

الف) $\frac{x^2 - 1}{x - 1} > 0 \Rightarrow \frac{(x-1)(x+1)}{(x-1)} > 0 \Rightarrow \frac{1}{-1} + \frac{1}{0} + \frac{1}{1}$ (سؤال ٧)

$\Rightarrow D_f = (1, \infty) - \{1\}$

ب) $\left\{ \begin{aligned} \frac{x+1}{x-1} > 0 &\Rightarrow \frac{-1}{+1} - \frac{1}{-1} \pm \Rightarrow (1, \infty) \cup (-\infty, -1) \\ x+1 > 0 &\Rightarrow x > -1 \\ x+1 \neq 1 &\Rightarrow x \neq 0 \end{aligned} \right\} \Rightarrow D_f = (-\infty, -1) \cup (1, \infty) - \{0\}$

الف) $x \log_r^{(n-1)} > 0 \Rightarrow \log_r^{(n-1)} < 1 \Rightarrow n-1 < r^1 \Rightarrow I: n < 10$ (سؤال ٨)
 $I \cap II: (1, 10] = D_f \quad \leftarrow II: n-1 > 0 \Rightarrow n > 1$

ب) $\left\{ \begin{aligned} I: n > 0 \\ II: x \log_r^n - 1 > 0 &\Rightarrow x \log_r^n > 1 \Rightarrow \log_r^n > \frac{1}{x} \Rightarrow x > r^{\frac{1}{n}} \Rightarrow x > \sqrt[n]{r} \end{aligned} \right.$

$I \cap II: D_f = (\sqrt[n]{r}, \infty)$

الف) $x^n + 1 \neq 0 \Rightarrow x^n \neq -1 \Rightarrow$ هوامه بجزار: $D_f = \mathbb{R}$ (سؤال ٩)

ب) $x^n - 1 \neq 0 \Rightarrow x^n \neq 1 \Rightarrow x \neq 0 \Rightarrow \log_x^{x^n-1} + \log_1^1 \Rightarrow D_f = \mathbb{R} - \{0\}$

ج) $x^n - 2 \neq 0 \Rightarrow x^n \neq 2 \Rightarrow x \neq \log_x^2 \Rightarrow D_f = \mathbb{R} - \{\log_x^2\}$

د) $x^n - 1 \neq 0 \Rightarrow x^n \neq 1 \Rightarrow x \neq \log_x^1 \Rightarrow D_f = \mathbb{R} - \{\log_x^1\}$

الف) $km+1 \in \omega \Rightarrow km \in \omega-1 \Rightarrow m \in \frac{\omega-1}{k} = D_f = \{m | m = \frac{k-1}{k} \wedge k \in \omega\}$ (سؤال ١٠)

ب) $\frac{km-1}{km-2} \in \omega \Rightarrow km-1 \in km-\omega \Rightarrow km-1 \in km-\omega \Rightarrow m \Rightarrow m = \frac{1-\omega}{k-\omega}$

$$Q: \left\{ n \mid n = \frac{1-\omega^k}{1-\omega} \cdot k \in \omega \right\}$$

بہت سے سوال