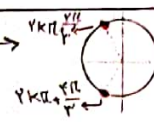


پاسخنامه تشریحی تکلیف شماره کلاس چشم پوشی

نام و نام خانوادگی: شماره کلاس: تاریخ:

الف) $\cos \alpha \neq 0 \rightarrow |\cos \alpha| \neq 0 \rightarrow \cos \alpha \neq -1 \rightarrow \cos \alpha \neq -\frac{1}{2} \rightarrow \alpha \neq \frac{2\pi}{3}, \frac{4\pi}{3}$

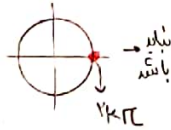
$\Rightarrow D_f = \mathbb{R} - \left\{ \frac{2\pi}{3}, \frac{4\pi}{3} \right\}$



این نقاط را حذف

ب) $\cos \alpha - 1 \neq 0 \rightarrow \cos \alpha \neq 1 \rightarrow \alpha \neq 0, 2\pi$

$\Rightarrow D_f = \mathbb{R} - \{0, 2\pi\}$



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الف) $\tan \alpha \neq 0 \rightarrow \frac{\sin \alpha}{\cos \alpha} \neq 0 \rightarrow \sin \alpha \neq 0$

$\Rightarrow D_f = \mathbb{R} - \left\{ k\pi, k\pi + \pi \right\}$

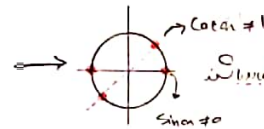


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ب) $\cot \alpha \neq 0 \rightarrow \frac{\cos \alpha}{\sin \alpha} \neq 0 \rightarrow \cos \alpha \neq 0$

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



الف) $1 \leq \sin \alpha \leq 1 \Rightarrow \sin \alpha = 1 \Rightarrow \alpha = \frac{\pi}{2} + 2k\pi$

$\Rightarrow D_f = \left[-\frac{\pi}{2}, \frac{\pi}{2} \right] \cup \left[\frac{3\pi}{2}, \frac{5\pi}{2} \right]$

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ب) $\arccos(x) \in \left[\frac{\pi}{2}, \pi \right] \Rightarrow x \in [-1, 0]$

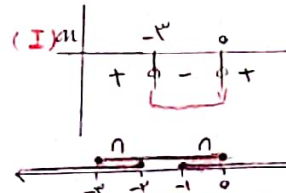
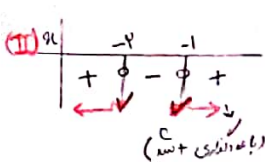
$\Rightarrow D_f = [-1, 0]$

الف) $1 \leq \cos \alpha \leq 1 \Rightarrow \cos \alpha = 1 \Rightarrow \alpha = 0 + 2k\pi$

$\Rightarrow D_f = [0, 2\pi] \cup [4\pi, 6\pi]$

ب) $\arcsin(x) \in \left[\frac{\pi}{2}, \frac{3\pi}{2} \right] \Rightarrow x \in [-1, 0]$

$\Rightarrow D_f = [-1, 0]$



$D_f = \frac{n}{(I) \cap (II)} \Rightarrow D_f = [-3, -1] \cup [1, 2]$

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الف) $\log_b a \sim \frac{a}{b} \Rightarrow \frac{a}{b} > 0 \Rightarrow a > 0, b > 0, b \neq 1$

$\Rightarrow D_f = (-\infty, -2) \cup (2, +\infty)$

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

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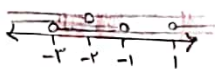
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الف) $\begin{cases} a-01 > 0 \rightarrow a > 01 \\ a-2 > 0 \rightarrow a > 2 \\ a-2 \neq 1 \rightarrow a \neq 2 \end{cases} \xrightarrow{\cap} D_f = (2, \infty) - \{2\}$

2

ب) $\begin{cases} a^2-1 > 0 \rightarrow a^2 > 1 \rightarrow \begin{cases} a > 1 \\ a < -1 \end{cases} \\ a+2 > 0 \rightarrow a > -2 \\ a+2 \neq 1 \rightarrow a \neq -2 \end{cases} \xrightarrow{\cap} D_f = ((-2, -1) \cup (1, +\infty)) - \{-2\}$

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الف) $\log \frac{(a-2)(a-1)}{a-2} \rightarrow \frac{(a-2)(a-1)}{a-2} > 0$  $\Rightarrow D_f = (1, 2) \cup (2, +\infty) = (1, +\infty) - \{2\}$

ب) $\begin{cases} \frac{a+3}{a-2} > 0 \rightarrow \begin{cases} a > 2 \\ a < -3 \end{cases} \\ a+2 > 0 \rightarrow a > -2 \\ a+2 \neq 1 \rightarrow a \neq -3 \end{cases} \xrightarrow{\cap} D_f = ((-2, -3) \cup (2, +\infty)) - \{-3\}$

2

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الف) $\begin{cases} a-2 > 0 \rightarrow a > 2 \\ 2 - \log_r(a-2) \geq 0 \rightarrow 2 \geq \log_r(a-2) \xrightarrow{r=1} \log_r 1 \geq \log_r(a-2) \rightarrow a-2 \leq 1 \rightarrow a \leq 3 \end{cases} \xrightarrow{\cap} D_f = (2, 3]$

2

ب) $\begin{cases} a > 0 \\ 2 \log_r a - 1 > 0 \rightarrow 2 \log_r a > 1 \rightarrow \log_r a > \frac{1}{2} \xrightarrow{r=\sqrt{2}} \log_{\sqrt{2}} a > \log_{\sqrt{2}} \sqrt{2} \rightarrow a > \sqrt{2} \end{cases} \xrightarrow{\cap} D_f = (\sqrt{2}, +\infty)$

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الف) $a+1 \neq 0 \rightarrow a \neq -1$ $\Rightarrow D_f = \mathbb{R}$

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

2

ج) $a-2 \neq 0 \rightarrow a \neq 2 \rightarrow a \neq \frac{1}{2} \rightarrow a \neq \frac{1}{2}$ $(\log_r \frac{1}{2} = \frac{1}{r} \neq a) \Rightarrow D_f = \mathbb{R} - \{\frac{1}{2}\}$

د) $a-2 \neq 0 \rightarrow a \neq 2 \rightarrow a \neq \log_r 2$ $\Rightarrow D_f = \mathbb{R} - \{\log_r 2\}$

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الف) $(a+1) \in \mathbb{W} \rightarrow a \in \mathbb{W} - 1 \rightarrow a \in \frac{\mathbb{W}-1}{r} \Rightarrow D_f = \{a \mid a = \frac{k-1}{r}, k \in \mathbb{W}\}$

ب) $\frac{ra-2}{ra-2} \in \mathbb{W} \rightarrow \frac{ra-2}{ra-2} = \mathbb{W} \xrightarrow{a = \frac{dw-b}{cw-a}} a = -\frac{-\Delta w + 2}{r\mathbb{W} - 2} = \frac{\Delta w - 2}{r\mathbb{W} - 2}$

$\Rightarrow D_f = \{a \mid a = \frac{\Delta k - 2}{rk - 2}, k \in \mathbb{W}\}$

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