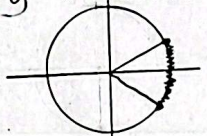
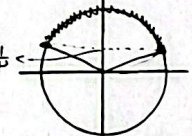
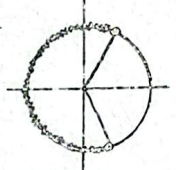
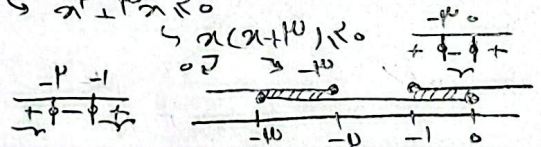


نام و نام خانوادگی ...
پاسخنامه تشریحی تکلیف شماره ... کلاس ...

الف) $\frac{x+10}{\frac{x^2+10x-1}{x^2+10x-1}} = \frac{x+10}{(x^2+10x-1)(x-1)} = \frac{x+10}{(x-1)(x+1)(x+10)}$ $\Rightarrow [Df = R - \{1, \frac{1}{p}, -10\}]$ ب) $\frac{x+10}{\frac{x^2+10x-1}{x^2+10x-1}} = \frac{x+10}{(x+1)(x^2+10x-1)} = \frac{x+10}{(x+1)(x+1)(x+10)}$ $\Rightarrow [Df = R - \{-1, -\frac{1}{p}, -10\}]$	1
الف) $\frac{x+10}{\frac{x^2-10x+1}{x^2-10x+1}} = \frac{x+10}{(x-1)(x^2-10x+1)}$ $\Delta = b^2 - 4ac = 100 - 4 = 96$ $\Rightarrow [Df = R - \{1\}]$ ب) $y = \sqrt{\frac{x+10}{x^2-10x+1}} \geq 0$ $\Rightarrow [Df = (-\infty, 1] \cup (1, +\infty)]$	2
$y = \frac{p}{x^2 - \omega(x-1) - p(x+\omega)}$ $x > 1 \rightarrow x^2 - \omega(x-1) - p(x+\omega) = x^2 - \omega x + \omega - p x - p \omega = x^2 - (p+\omega)x + (\omega - p\omega) = 0$ $x < 1 \rightarrow x^2 - \omega(1-x) - p(x+\omega) = x^2 - \omega + \omega x - p x - p \omega = x^2 + (p+\omega)x - (\omega + p\omega) = 0$ $\Rightarrow [Df = R - \{1, 0, 2, \omega\}]$	3
الف) $y = \sqrt{[-x]-p} \rightarrow [-x]-p \geq 0 \rightarrow [-x] \geq p \rightarrow [Df = (-\infty, -p]]$ ب) $y = \frac{\omega x^2 + 9}{[x]^2 - p[x] - 10}$ $\Rightarrow [Df = (R - \{0, F\}) \cup [-1, 0))$	4
الف) $[x - \frac{1}{p}] + [x + \frac{p}{p}] \geq 0 \Rightarrow [x - \frac{1}{p}] + [x - \frac{1}{p}] + 1 \geq 0$ $\Rightarrow [Df = [\frac{1}{p}, +\infty)]$ ب) $[x - \frac{1}{p}] + [\frac{1}{p} - x] \geq 0$ $\Rightarrow [Df = \{\frac{1}{p} + k \mid k \in \mathbb{Z}\}]$	5

$\frac{x^2+10x-1}{x^2+10x-1} \cdot \frac{x-1}{x-1} = \frac{x^2+10x-1}{(x^2+10x-1)(x-1)}$
 $\frac{x^2+10x-1}{x^2+10x-1} \cdot \frac{x+1}{x+1} = \frac{x^2+10x-1}{(x^2+10x-1)(x+1)}$
 $\frac{x^2+10x-1}{x^2+10x-1} \cdot \frac{x-1}{x-1} = \frac{x^2+10x-1}{(x^2+10x-1)(x-1)}$

ا) $y = \frac{\cos x + 1}{\sin x} \rightarrow \tan x \neq -1$ $\frac{\sin x}{\cos x} \neq -1 \rightarrow \tan x \neq -1$ $\hookrightarrow \mu \cos^2 x + \nu \cos x + \omega = 0 \rightarrow \frac{\mu \cos x}{\nu} + \frac{\omega}{\nu} = -\cos x$ $R = \{ PK\pi, PK\pi + \frac{\pi}{2}, PK\pi + \frac{3\pi}{2}, PK\pi + \frac{\pi}{2}, PK\pi + \frac{3\pi}{2}, PK\pi + \frac{\pi}{2}, PK\pi + \frac{3\pi}{2} \}$ ب) $y = \sqrt{1 - F \sin^2 x} \rightarrow 1 - F \sin^2 x \geq 0 \rightarrow 1 \geq F \sin^2 x \rightarrow \sin^2 x \leq \frac{1}{F} \rightarrow \sin x \leq \frac{1}{\sqrt{F}}$  $D_F = [K\pi - \frac{\pi}{4}, K\pi + \frac{\pi}{4}]$	6
ا) $y = \sqrt{P \sin x} \rightarrow P \sin x \geq 0 \rightarrow \sin x \geq 0 \rightarrow \sin x \geq \frac{1}{P}$  $D_F = [PK\pi + \frac{\pi}{4}, PK\pi + \frac{3\pi}{4}]$ ب) $y = \sqrt{1 - P \cos x} \rightarrow 1 - P \cos x \geq 0 \rightarrow \cos x \leq \frac{1}{P}$  $D_F = [PK\pi + \frac{\pi}{\omega}, PK\pi + \frac{2\pi}{\omega}]$	7
ا) $\arccos(x^p + \mu x + 1) \rightarrow -1 \leq x^p + \mu x + 1 \leq 1$ $D_F = [-\frac{1}{\mu}, -\frac{1}{\mu}] \cup [-1, 0]$ $x^p + \mu x + 1 \leq 1 \rightarrow x^p + \mu x \leq 0 \rightarrow x(x + \mu) \leq 0$ $(x+1)(x+\mu) \geq 0$  ب) $\cos y = \sqrt{\omega - Px} \rightarrow \omega - Px \geq 0 \rightarrow Px \leq \omega \rightarrow x \leq \frac{\omega}{P}$ $-1 \leq \sqrt{\omega - Px} \leq 1 \rightarrow \omega - Px \leq 1 \rightarrow Px \geq \omega - 1 \rightarrow x \geq \frac{\omega - 1}{P}$ $\omega - Px \geq 0 \rightarrow \omega \geq Px \rightarrow \frac{\omega}{P} \geq x \rightarrow x \leq \frac{\omega}{P}$ $D_F = [\frac{\omega - 1}{P}, \frac{\omega}{P}]$	8
ا) $y = \log_r \left(\frac{1 - \log \mu}{\mu} \right) \rightarrow 1 - \log \mu \geq 0 \rightarrow 1 \geq \log \mu \rightarrow \log \mu \leq 1 \rightarrow \mu \leq 10$ $\mu > 0 \rightarrow \mu \in (0, 10]$ ب) $\log_r \left(\frac{1 - \log \frac{1}{\mu}}{\frac{1}{\mu}} \right) \rightarrow 1 - \log \frac{1}{\mu} \geq 0 \rightarrow \log \frac{1}{\mu} \leq 1 \rightarrow \frac{1}{\mu} \leq 10 \rightarrow \mu \geq \frac{1}{10}$ $\mu > 0 \rightarrow \mu \in [\frac{1}{10}, 10]$	9
ا) $y = \sqrt{P^{\mu} x - \omega} \rightarrow P^{\mu} x - \omega \geq 0 \rightarrow P^{\mu} x \geq \omega \rightarrow x \geq \frac{\omega}{P^{\mu}}$ $D_F = [\frac{\omega}{P^{\mu}}, \mu]$ $x^p - Fx + \mu \leq 0$ $(x-1)(x-\mu) \leq 0$ ب) $\left(\frac{Px + \omega}{Px + F} \right)!$ $\frac{Px + \omega}{Px + F} \in W \rightarrow Px + \omega = PxW + FW$ $Px - PxW = FW - \omega$ $x(P - PW) = FW - \omega \rightarrow x = \frac{FW - \omega}{P - PW}$ $\{x x = \frac{FW - \omega}{P - PW}, K \in W\}$	10