

الف) $y = \sqrt{a - \frac{1}{\mu}} + \sqrt{a + \frac{1}{\mu}}$

$+1 \sqrt{a - \frac{1}{\mu}} + \sqrt{a + \frac{1}{\mu}} \geq 0$

$2 \sqrt{a + \frac{1}{\mu}} \geq 0$

$\sqrt{a + \frac{1}{\mu}} \geq 0$

$a + \frac{1}{\mu} \geq 0$

$Df = [\frac{1}{\mu}, +\infty)$

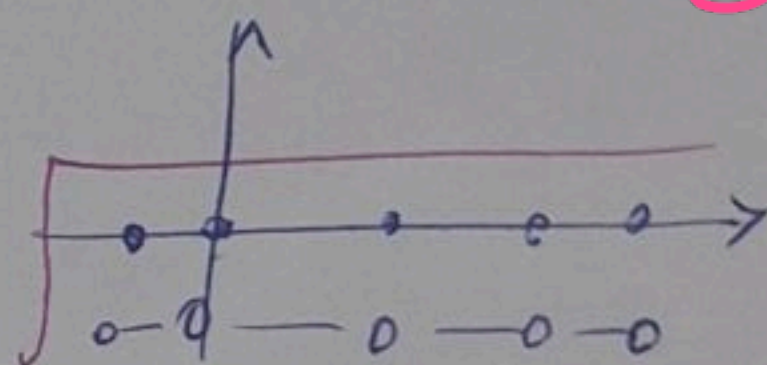
ب) $y = \sqrt{a + \frac{1}{\mu}} + \sqrt{\frac{1}{\mu} - a}$

+

$[+1] + [-+1] \geq 0$

$+ \in \mathbb{Z}$

$a - \frac{1}{\mu} \in \mathbb{Z} \quad a \in \mathbb{Z} + \frac{1}{\mu}$



$Df = \{a \in \mathbb{R} \mid a = k + \frac{1}{\mu}, k \in \mathbb{Z}\}$

الف) $y = \frac{\cot x + 1}{\tan x + 1}$

$\tan x - 1 \neq 0$

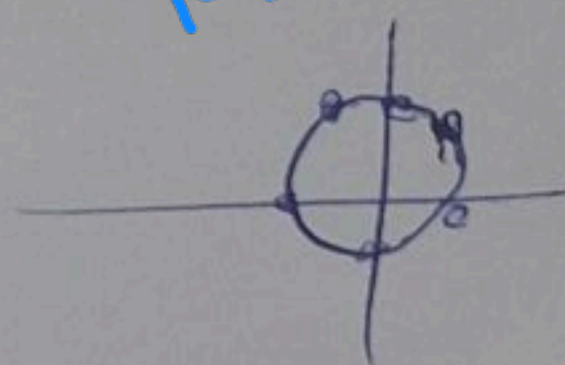
$\sin x \neq 0$

$\sin x \neq 0$

$\tan x \neq -1$

$\cos x \neq 0$

$Df = \mathbb{R} - \{k\pi, k\pi + \frac{\pi}{2}, k\pi + \frac{3\pi}{2}\}$



ب) $y = \sqrt{1 - \sin^2 x}$

$1 - \sin^2 x \geq 0$

$-\frac{1}{\mu} \leq \sin x \leq \frac{1}{\mu}$

$Df = [k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4}]$

چرا π ها را ننویسیم؟

$\sin x - 1 \geq 0$

$\sin x \geq \frac{1}{\mu}$

$Df = [\frac{\pi}{4}, \frac{3\pi}{4}]$

$1 - 2\cos x \geq 0$

$\mathbb{R} - \{k\pi \pm \frac{\pi}{\mu}\}$

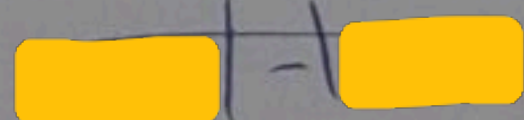
باید بازه اعشاری این π ها را بنویسیم!

$-1 \leq \sin(a + \frac{1}{\mu} + 1) \leq 1$

$0 \leq (a+1)(a+2)$

$a + \frac{1}{\mu} \geq 0$

$a/(a+3) \leq 0$



$Df = [2, +\infty)$

$(-\infty, -2] \cup [2, +\infty) \cap [2, +\infty)$

ب) $\cos y = \sqrt{1 - 2a}$

$-1 \leq \sqrt{1 - 2a} \leq 1$

$-1 \leq 1 - 2a \leq 1$

$0 \leq 2a \leq 2$

$Df = [0, 1]$

۱۸۵ راه حل مرتب و منظم بنویس! بداند که به این راه حل نوشته

را بنویس و بسین باید چیدوری کامل تر بنویس آنتین

(الف)

$$\frac{q+3}{2q^3+3q^2-10q+3}$$

$$Df = R - \left\{ -\frac{3}{2}, -1, 2 \right\}$$

$$y = \frac{q+3}{2q^3+3q^2+10q+3}$$

$$D = R - \left\{ -\frac{3}{2}, -1, 2 \right\}$$

(الف)

$$\frac{q+3}{q^3-2q^2+2q-1}$$

$$Df = R - \left\{ 1 \right\}$$

$$y = \sqrt{\frac{q+3}{q^3-2q^2+2q-1}}$$

$$y = \frac{2}{q^2-4|q-1|-2q+4}$$

$$Df = R - \left\{ 0, -3, 5, 2 \right\}$$

$$y = \sqrt{[-q]-2}$$

$$y = \frac{4q^2+2}{[q]^2-2[q]-3}$$

$$\frac{2q^3+3q^2-10q+3}{2q^3+3q^2-10q+3} \frac{q-1}{q-1}$$

$$\frac{(2q^2+3q+3)(q-1)}{(q+3)(q-2)(q-1)}$$

$$\frac{2q^3+3q^2+10q+3}{2q^3+3q^2+10q+3}$$

$$\frac{(q+1)(2q^2+7q+3)}{(q+1)(q+3)(q+1)}$$

$$q = -1 \quad q = -\frac{3}{2} \quad q = -\frac{1}{2}$$

$$\frac{q^3-2q^2+2q-1}{q^2-q+1} \frac{q-1}{q-1}$$

$$(q^2-q+1)(q-1)$$

$$\frac{-3}{2} \quad \frac{1}{2} \quad \frac{1}{2}$$

$$Df = (-\infty, +1) \cup [2, +\infty)$$

$$q > 0 \quad q^2-4q+4-2q+4 \quad (q-2)(q+2)$$

$$q^2+4q-4-2q+4 \quad q^2+2q \quad q(q+2) \neq 0$$

$$[-q]-2 \neq 0 \quad -[-q] \neq 2 \quad Df = (-\infty, -2]$$

$$([q]-3)([q]-1) \neq 0 \quad [q] \neq 3 \quad [q] \neq -1$$

$$D = R - \left\{ [3, 4), [-1, 0) \right\}$$

الف) $f(x) = \log_r (1 - \log_r x^n)$
 $(x \rightarrow +\infty)$

$1 - \log_r x^n > 0$
 $\log_r x^n < 1$

(9)
 $(1, \sqrt{e})$

ب) $f(x) = \log_r (1 - \log_r \frac{1}{x})$

$x > 0$
 $1 - \log_r \frac{1}{x} > 0$

$\log_r \frac{1}{x} < 1$
 $\frac{1}{x} < r$

$Df_c(\frac{1}{r}, +\infty)$

$0 < u < c$
 $Df_c(0, c)$

الف) $\int_r \frac{(a - ar^2)}{-1}$

$r^{a-ar^2} > r^a$

$a^2 - (a+1)r > 0$

$\frac{1}{-1} \frac{r}{-1} = \int_0^r r$

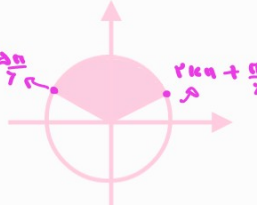
ب) $(\frac{r(n+d)}{r(n+s)})!$

$\frac{r(n+d)}{r(n+s)} \in \mathbb{N}$

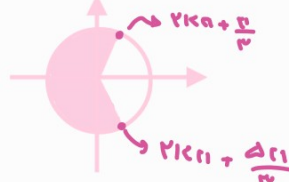
$\{n | n \rightarrow \frac{-d + \epsilon k}{r - \epsilon k}, k \in \mathbb{N}\}$

د

الف - $\sqrt{2} \sin n - 1 \geq 0 \rightarrow \sin n \geq \frac{1}{\sqrt{2}} \rightarrow D_f = [rkn + \frac{\pi}{4}, rkn + \frac{3\pi}{4}]$



ب - $1 - \sqrt{2} \sin n \geq 0 \rightarrow \sin n \leq \frac{1}{\sqrt{2}} \rightarrow D_f = [rkn + \frac{3\pi}{4}, rkn + \frac{5\pi}{4}]$



الف - $-1 \leq x^2 + \frac{9}{\varepsilon} \leq 1 \rightarrow -1 \leq x^2 + \frac{9}{\varepsilon} - \frac{9}{\varepsilon} \leq 1$

$\frac{1}{\varepsilon} \leq x^2 + \frac{9}{\varepsilon} \leq \frac{9}{\varepsilon} \rightarrow \frac{1}{\varepsilon} \leq (x + \frac{3}{\sqrt{\varepsilon}})^2 \leq \frac{9}{\varepsilon}$

$\int (x + \frac{3}{\sqrt{\varepsilon}})^2 \leq \frac{9}{\varepsilon} \rightarrow -\frac{3}{\sqrt{\varepsilon}} \leq x + \frac{3}{\sqrt{\varepsilon}} \leq \frac{3}{\sqrt{\varepsilon}} \rightarrow -3 \leq x \leq 0 \quad I$

$\int (x + \frac{3}{\sqrt{\varepsilon}})^2 \geq \frac{1}{\varepsilon} \rightarrow x + \frac{3}{\sqrt{\varepsilon}} \geq \frac{1}{\sqrt{\varepsilon}} \rightarrow x \geq -1 \leq x + \frac{3}{\sqrt{\varepsilon}} \leq \frac{1}{\sqrt{\varepsilon}} \rightarrow x \leq -2 \quad II$

$I \cap II \rightarrow D_f = [-3, -2] \cup [-1, 0]$

الف - $y = \log_r (1 - \log_r^n)$ $\rightarrow \log_r^n \rightarrow n > 0$
 $\rightarrow 1 - \log_r^n > 0 \rightarrow \log_r^n < 1 \rightarrow n < r$

$D_f = (0, r)$

ب - $y = \log_r (1 - \log_r^n \frac{1}{r})$ $\rightarrow \log_r^n \frac{1}{r} \rightarrow n > 0$

$\rightarrow 1 - \log_r^n \frac{1}{r} > 0 \rightarrow \log_r^n \frac{1}{r} < 1 \xrightarrow{\text{مناسبة}} n > \frac{1}{r}$

$D_f = (\frac{1}{r}, +\infty)$