

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

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

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

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

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

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

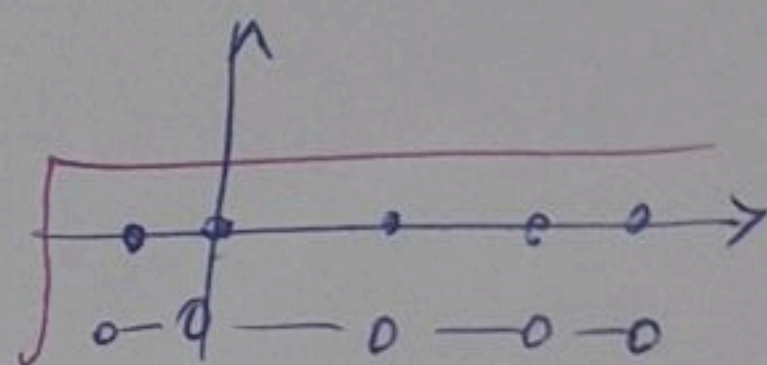
ب) $y = \sqrt{a + \frac{1}{\mu}} + \sqrt{\frac{1}{\mu} - a}$

لـ

$\sqrt{+1} + \sqrt{-+} \geq 0$

$+ \in \mathbb{Z}$

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



$Df = \{a \in \mathbb{Z}, k\}$

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

$\tan a - 1 \neq 0$

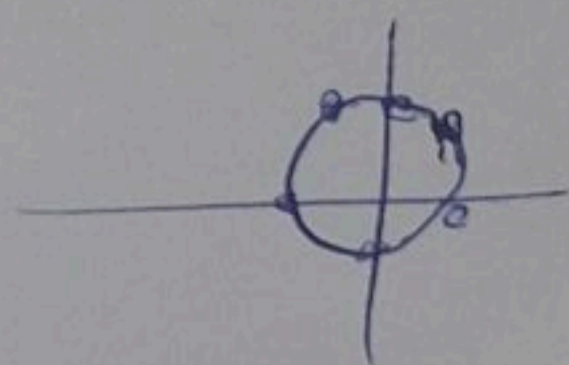
$\sin \neq 0$

$\sin a \neq 0$

$\tan \neq -1$

$\cos \neq 0$

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



ب) $y = \sqrt{1 - \sin^2 a}$

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

$-\frac{1}{2} \leq \sin a \leq \frac{1}{2}$

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

الف) $y = \sqrt{2 \sin a - 1}$

$2 \sin a - 1 \geq 0$

$\sin a \geq \frac{1}{2}$

$Df = [\frac{\pi}{6}, \frac{5\pi}{6}]$

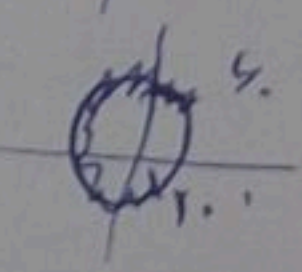


ب) $y = \sqrt{1 - 2 \cos a}$

$1 - 2 \cos a \geq 0$

$\cos a \leq \frac{1}{2}$

$\mathbb{R} - [k\pi \pm \frac{\pi}{3}]$



الف) $\arcsin(a^2 + (a+1))$

$-1 \leq \sin(a^2 + (a+1)) \leq 1$

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

$\frac{-1 \pm 1}{2}$

$a^2 + a \leq 1$

$a(a+1) \leq 1$

$\frac{-1 \pm 1}{2}$

$Df = [-1, 1]$

$(-\infty, -1] \cup [-1, +\infty) \cap \mathbb{R}$

ب) $\cos y = \sqrt{1 - 2a}$

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

$1 - 2a \geq 0$

$a \leq \frac{1}{2}$

$Df = [0, \frac{1}{2}]$

الف) $\frac{x+3}{2x^3+3x^2-11x+3}$

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

ب) $y = \frac{x+3}{2x^3+9x^2+10x+3}$

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

الف) $\frac{x+3}{x^3-2x^2+2x-1}$

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

ب) $\sqrt{\frac{x+3}{x^3-2x^2-2x-1}}$

$y = \frac{x}{x^2-d|x-1|-2x+d}$

$D_f = \mathbb{R} - \{0, -3, 0, -2\}$

الف) $y = \sqrt{[-x]-2}$

ب) $y = \frac{2x^2+2}{(x)^2-2(x)^2}$

تمثل راسي لنا $\frac{2x^3+3x^2-11x+3}{2x^3+3x^2}$ $\frac{x-1}{x^2+3x+3}$

$\frac{(2x^3+3x^2-11x+3)(x-1)}{(x+3)(x-2)(x-1)}$
 $x_2 = -\frac{3}{2} \quad x = -1 \quad x = 1$

$\frac{2x^3+9x^2+10x+3}{2x^3+6x^2+3}$

$\frac{(x+1)(2x^2+7x+3)}{(x+1)(x+3)(x+1)}$
 $x_2 = -1 \quad x_2 = -\frac{3}{2} \quad x_2 = -\frac{1}{2}$

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

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

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

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

$x > 0 \quad x^2-dx+d-2x+d \quad (x-d)(x+2)$
 $x^2-vx+1=0 \quad x \neq d \quad x \neq 2$

$x < 0 \quad x^2+dx-d-2x+d$
 x^2+2x
 $x(x+2) \neq 0$
 $x \neq 0 \quad x \neq -2$

$[-x]-2 \geq 0$
 $-[-x] \geq 2$
 $D_f = (-\infty, -2]$

$([x]-2)([x]-1) \neq 0$
 $[x] \neq 2 \quad [x] \neq 1$

$D = \mathbb{R} - \{ [2, 2), [-1, 0) \}$

الف) $f = \log_r (1 - \log_r^n)$
 $(r_0 + \infty)$

$1 - \log_r^n > 0$

$\log_r^n < 1$

$n < r$

$n > 0$

(9)

ب) $f = \log_r (1 - \log_r^{1/r})$

$n > 0$

$1 - \log_r^{1/r} > 0$

$\log_r^{1/r} < 1$
 $n > 1/r$

الف) $\int_r \frac{(a - ar^2)}{-1}$

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

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

$\frac{1}{-1} \frac{r}{+1} = -r$

$P_f = \int_0^r r$

(11)

ب) $(\frac{r(n+d)}{r(n+s)})!$

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

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