

راه حل معادله نوشتن را بفین تا امتیاز ۱۴،۷۷۰ ضربه دانی در دو هفته و لا اله الا انت صلاه خود

$$D_y = 1R - \left\{ -r' \frac{1}{r} \right\}$$

$$D_y = 1R - \left\{ -19 - 1, \frac{1}{r} \right\} \quad 1$$

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

$$D_y = (-\infty, -w] \cup (1, +\infty)$$

$$D_f = \mathbb{R} - \{-\infty, 0, 1, \infty\}$$

$$\hookrightarrow [x]^r - r[x] - u \neq 0$$

$$([x] - y)([x] - 1) \neq 0$$

$$\nearrow [x] - \psi = 0 \rightarrow [x] = \psi \rightarrow x = [\psi, \psi]$$

$$\hookrightarrow [x]-1 = 0 \longrightarrow [x] = 1 \longrightarrow [1, 2)$$

$$D_y = \mathbb{R} - [1, 2) \cup [2, 4)$$

$$[x + \frac{1}{p}] \geq \frac{1}{p}$$

$$D_y = \{x \mid x = k + \frac{1}{y}, k \in \mathbb{Z}\}$$

$$a \notin \mathbb{Z} \rightarrow -1$$

عقوق ← زیر طردیکل جنسی نہیں ہو سکتا ہے۔

الف) $\frac{\cot x + 1}{\tan x + 1} \rightarrow \frac{\frac{\cos x}{\sin x} + 1}{\frac{\sin x}{\cos x} + 1} \rightarrow \frac{\cos x + \sin x}{\sin x + \cos x} \rightarrow \sin x \neq 0 \rightarrow \cos x \neq 0$

$\rightarrow \tan x + 1 \neq 0 \rightarrow \tan x \neq -1 \rightarrow x \neq k\pi - \frac{\pi}{4}$

$D_y = \mathbb{R} - \left\{ \frac{k\pi}{4} \right\}$

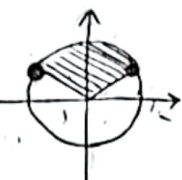
ب) $1 - 4 \sin^2 x \geq 0$
 $-4 \sin^2 x \geq -1$
 $4 \sin^2 x \leq 1$
 $\sin^2 x \leq \frac{1}{4}$
 $-\frac{1}{2} \leq \sin x \leq \frac{1}{2}$



$D_y = \left[k\pi - \frac{\pi}{6}, k\pi + \frac{\pi}{6} \right]$

انتقال از بازه به بازه کوچک تر

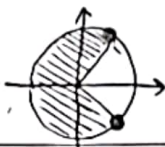
الف) $0 \leq 2 \sin x - 1$
 $1 \leq 2 \sin x$
 $\frac{1}{2} \leq \sin x$



$D_y = \left[2k\pi + \frac{\pi}{6}, 2k\pi + \pi - \frac{\pi}{6} \right]$

$D_f = \left[2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6} \right]$

ب) $0 \leq 1 - 2 \cos x$
 $-1 \leq -2 \cos x$
 $1 \geq 2 \cos x$
 $\frac{1}{2} \geq \cos x$



$D_y = \left[2k\pi + \frac{\pi}{3}, 2k\pi + \frac{5\pi}{3} \right]$

تجزیه است

الف) $-1 \leq x^2 + 3x + 1 \leq 1$

$D_y = \{3\} \cup [-2, 0]$

$-1 \leq x^2 + 3x + 1 \leq 1$
 $0 \leq x^2 + 3x + 2 \rightarrow (x+1)(x+2) \geq 0$
 $x^2 + 3x + 1 \leq 1 \rightarrow x^2 + 3x \leq 0 \rightarrow x(x+3) \leq 0$

ب) $-1 \leq \sqrt{a - 2x} \leq 1$

$-1 \leq \cos y \leq 1$

$0 \leq a - 2x \leq 1$

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

$a \geq 2x \geq 1$

$D_y = \left[\frac{1}{2}, \frac{a}{2} \right]$

الف) $\log_2 (1 - \log_3 x) > 0$

$1 - \log_3 x > 0$

$\log_3 x < 1$

$x < 3$

$D_y = (-\infty, 3)$

$x > 0$

ب) $\log_2 (1 - \log_3 \frac{x}{3}) > 0$

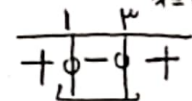
$1 - \log_3 \frac{x}{3} > 0$

$\log_3 \frac{x}{3} < 1$

$\log_3 \frac{x}{3} < 1 \rightarrow x < 9 \rightarrow D_y = (-\infty, 9)$

الف) $2^{kx} - x^2 \geq 1$
 $2^{kx} - x^2 \geq 1$
 $2^{kx} \geq x^2 + 1$

$0 > -x^2 + 2x + 1$
 $0 > (x-1)(x+1)$
 $x=1 \quad x=-1$



$D_y = [1, 3]$

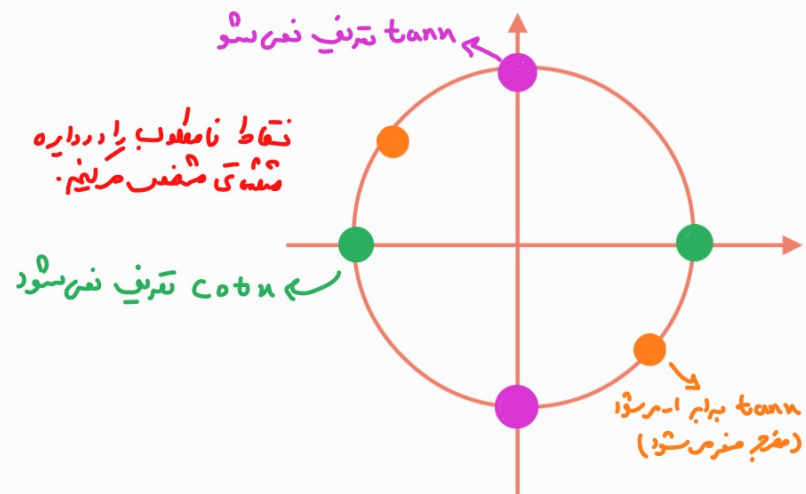
ب) $\frac{2x+a}{2x+2} \in W \rightarrow 2x+a = 2wx+2w$
 $2x - 2wx = 2w - a \rightarrow x = \frac{2w-a}{2-2w}$

$D_y = \{x \mid x = \frac{2k+a}{2-2k}, k \in W\}$

$$4 - \text{الف}) \quad [-n] - 2 \geq 0 \rightarrow [-n] \geq 2 \rightarrow -n \geq 2 \rightarrow n \leq -2 \rightarrow D_f = (-\infty, -2]$$

$$9 - \text{الف}) \quad y = \frac{\cot x + 1}{\tan x + 1}$$

نقاط نامعلوم را در دایره
مشیقی مشخص میکنیم.

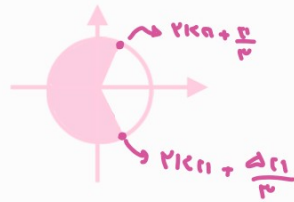


$$x \neq k\pi + \frac{\pi}{2}$$

$$x \neq k\pi + \frac{\pi}{2} \cup x \neq k\pi$$

$$\hookrightarrow x \neq \frac{k\pi}{2} \rightarrow D_f = \mathbb{R} - \left\{ \frac{k\pi}{2}, k\pi + \frac{\pi}{2} \right\}$$

$$5 - \text{ب}) \quad 1 - 2 \cos x \geq 0 \rightarrow \cos x \leq \frac{1}{2}$$



$$\rightarrow D_f = [2k\pi + \frac{\pi}{3}, 2k\pi + \frac{5\pi}{3}]$$

$$8 - \text{الف}) \quad -1 \leq x^2 + \frac{3}{x} + 1 \leq 1 \xrightarrow{\frac{9}{4} - \frac{9}{4}} -1 \leq x^2 + \frac{3}{x} + \frac{9}{4} - \frac{9}{4} \leq 1$$

$$\frac{1}{4} \leq x^2 + \frac{3}{x} + \frac{9}{4} \leq \frac{9}{4} \rightarrow \frac{1}{4} \leq \left(x + \frac{3}{x}\right)^2 \leq \frac{9}{4}$$

$$\int \left(x + \frac{3}{x}\right)^2 \leq \frac{9}{4} \rightarrow -\frac{3}{x} \leq x + \frac{3}{x} \leq \frac{3}{x} \rightarrow -3 \leq x \leq 0 \quad I$$

$$\int \left(x + \frac{3}{x}\right)^2 \geq \frac{1}{4} \rightarrow x + \frac{3}{x} \geq \frac{1}{x} \rightarrow x \geq -1 \quad \cup \quad x + \frac{3}{x} \leq -\frac{1}{x} \rightarrow x \leq -2 \quad II$$

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

الف - ٩ $y = \log_2 (1 - \log_2^n x) \rightarrow \log_2^n x \rightarrow x > 0$
 $\hookrightarrow 1 - \log_2^n x > 0 \rightarrow \log_2^n x < 1 \rightarrow x < 2$

$Df_x (0, 2)$

ب - ٩ $y = \log_2 (1 - \log_2^n \frac{1}{x}) \rightarrow \log_2^n \frac{1}{x} \rightarrow x > 0$
 $\hookrightarrow 1 - \log_2^n \frac{1}{x} > 0 \rightarrow \log_2^n \frac{1}{x} < 1 \xrightarrow{\text{مناسب } (1,0)} x > \frac{1}{2}$

$Df_x (\frac{1}{2}, +\infty)$