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$\Delta = 1 - 4 = -3 < 0$

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$$y = \sqrt{\frac{n+1}{n^2 + 1}} = \sqrt{\frac{1}{(n+1)(n^2 + 1)}}$$

$D_f = (-\infty, -1) \cup (1, \infty)$

$$y = \frac{1}{n^2 + 1} = \frac{1}{n^2 + 1}$$

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

$$y = \sqrt{[n] - 1} \quad [n] \geq 1 \Rightarrow n \leq -1 \quad D_f = (-\infty, -1]$$

$$y = \frac{a n^2 + 1}{[n] - 1} \quad ([n] - 1) \neq 0$$

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

$$y = \sqrt{[n - \frac{1}{p}] + [n + \frac{1}{p}]} = \sqrt{2[n + \frac{1}{p}]} - 1$$

$D_f = [\frac{1}{p}, \infty)$

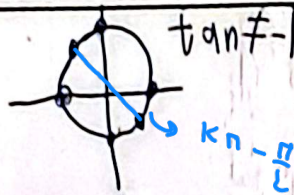
$$y = \sqrt{[n - \frac{1}{p}] + [\frac{1}{p} - n]}$$

$[t] + [-t] = 0 \text{ if } t \in \mathbb{Z}$

$$\Rightarrow n - \frac{1}{p} \in \mathbb{Z} \quad D_f = \{n = k + \frac{1}{p} \mid k \in \mathbb{Z}\}$$

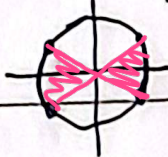
تعريف سود

$$y = \frac{\cot \pi + 1}{\tan \pi + 1}$$



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

$$y = \sqrt{1 - r \sin^2 m}$$



$$r \sin^2 m \leq 1 \Rightarrow -\frac{1}{r} \leq \sin m \leq \frac{1}{r}$$

$$D_f = \left[\frac{k\pi - \pi}{4}, \frac{k\pi + \pi}{4} \right] \cup \left[\frac{k\pi + \pi}{4}, \frac{k\pi + 3\pi}{4} \right]$$

$$y = \sqrt{r \sin m - 1}$$

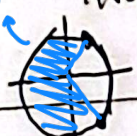


$$r \sin m \geq 1$$

$$\sin m \geq \frac{1}{r}$$

$$D_f = \left[\frac{k\pi + \pi}{4}, \frac{k\pi + 3\pi}{4} \right]$$

$$y = \sqrt{1 - r \cos m}$$



$$r \cos m \leq 1$$

$$\cos m \leq \frac{1}{r}$$

$$D_f = \left[\frac{k\pi - \pi}{4}, \frac{k\pi + \pi}{4} \right]$$

$$y = a r \sin(\pi^N + \pi^W + 1)$$

$$\Rightarrow -1 \leq \pi^N + \pi^W + 1 \leq 1$$

$$\frac{\pi^N + \pi^W}{\pi^N - \pi^W} \leq 0$$

$$\frac{\pi^N + \pi^W}{\pi^N - \pi^W} \leq 0$$

$$D_f = [-1, 0] \cap (-\infty, -1] \cup [1, \infty)$$

$$\cos y = \sqrt{a - r m}$$

$$\sqrt{a - r m} \leq 1$$

$$a - r m \leq 1 \quad m \geq r$$

$$D_f = \left[\frac{r}{a}, \frac{a}{r} \right]$$

$$y = \log_p (1 - \log \frac{\pi^N}{r})$$

$$D_f = (0, 1)$$

$$\Rightarrow \pi > 0$$

$$\Rightarrow 1 - \log \frac{\pi^N}{r} > 0 \Rightarrow \log \frac{\pi^N}{r} < 1$$

$$\Rightarrow \pi < r$$

چون متباينة هـ را است حيث ان المتباينة عوض مرتبة

$$\log \frac{\pi^N}{r} < 1 \rightarrow \pi > \frac{1}{r} \rightarrow D_f = \left(\frac{1}{r}, +\infty \right)$$

$$y = \log_p (1 - \log \frac{\pi^N}{r})$$

$$D_f = (0, \frac{1}{r})$$

$$\Rightarrow \pi > 0$$

$$1 - \log \frac{\pi^N}{r} > 0 \Rightarrow \log \frac{\pi^N}{r} < 1$$

$$y = \sqrt{r^{\pi^N - \pi^W} - 1}$$

$$D_f = [1, \log r]$$

$$\Rightarrow r^{\pi^N - \pi^W} \geq r^{\pi^N}$$

$$\pi^N - \pi^W \geq \pi^N \Rightarrow \pi^N - \pi^W \geq \pi^N \Rightarrow \pi^N - \pi^W \geq \pi^N$$

$$y = \left(\frac{\pi^N + a}{\pi^N + r} \right)!$$

$$\frac{\pi^N + a}{\pi^N + r} \in \mathbb{W} \quad \pi^N + a = \pi^W \pi^N + r \pi^N$$

$$\pi^W \pi^N = \pi^N - a$$

$$D_f = \{ n \mid n = \frac{r k - a}{\pi^N - \pi^W} \}$$

$$\pi^N (\pi^W - \pi^N) = \pi^N - a$$

$$\begin{array}{r|l}
 n^N n^N + q n^N + l o n^N + q w & n+1 \\
 \hline
 - n^N n^N & n^N + V n + w
 \end{array}$$

$$\begin{array}{r}
 V n^N + l o n + w \\
 - V n^N - V n \\
 \hline
 n^N + w
 \end{array}$$

$$\begin{aligned}
 & n^N + V n + w \\
 & (n+1)(n+1) \\
 & n = -\frac{w}{V} \\
 & n = -\frac{1}{V}
 \end{aligned}$$

وز بزرگداشت پروین اعتصامی

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پنجشنبه

۲۳ اسفند

۱۲ رمضان ۱۴۴۶

13 March 2025

$$\begin{array}{r}
 n^N - Nn^N + Nn - 1 \\
 - n^N + n^N \\
 \hline
 - n^N + Nn - 1 \\
 + n^N - n \\
 \hline
 n - 1
 \end{array}
 \quad
 \begin{array}{r}
 n - 1 \\
 \hline
 n^N - n + 1
 \end{array}
 \rightarrow \Delta < 0$$

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استدلال

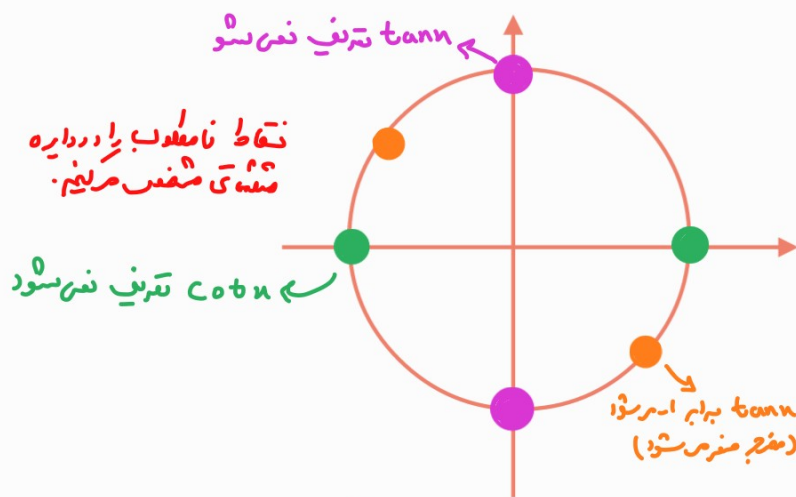
۴- الف) $y = \frac{\cot x + 1}{\tan x + 1}$

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

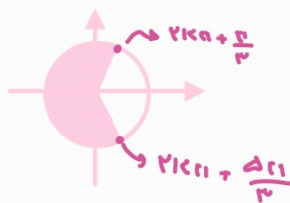
$x \neq k\pi + \frac{\pi}{4} \cup x \neq k\pi$

$\rightarrow x \neq \frac{k\pi}{4}$

$\rightarrow D_f = \mathbb{R} - \left\{ \frac{k\pi}{4}, k\pi + \frac{\pi}{2} \right\}$



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



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

۶- ب) $y = \log_2 (1 - \log_{\frac{1}{4}} x)$ $\rightarrow \log_{\frac{1}{4}} x \rightarrow x > 0$

$\rightarrow 1 - \log_{\frac{1}{4}} x > 0 \rightarrow \log_{\frac{1}{4}} x < 1 \xrightarrow{\text{مناسب (تبدیل)}} x > \frac{1}{4}$

$D_f = \left(\frac{1}{4}, +\infty \right)$