

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

مخرج صفر → $(x-1)$

$$\frac{x^2 - 2x + 2n - 1}{x^2 - 2x + 2n - 1} \rightarrow \frac{n-1}{x^2 - 2x + 2n - 1}$$

$$\Delta = 4$$

$$(x = -2, \frac{1}{2})$$

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

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الف) $y = \frac{n+2}{x^2 - 2x + 2n - 1}$

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$$(x = -2, \frac{1}{2})$$

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الف) $y = \sqrt{\frac{n+2}{x^2 - 2x + 2n - 1}}$

مخرج صفر → $(x-1)$

$$\frac{x^2 - 2x + 2n - 1}{x^2 - 2x + 2n - 1} \rightarrow \frac{n+1}{x^2 - 2x + 2n - 1}$$

$$\Delta = 4$$

$$(x = -2, \frac{1}{2})$$

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

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

مخرج صفر → $(x-1)$

$$\frac{x^2 - 2|x-1| - 2n+2}{x^2 - 2|x-1| - 2n+2} \rightarrow \frac{n+1}{x^2 - 2|x-1| - 2n+2}$$

$$\Delta = 4$$

$$(x = -2, \frac{1}{2})$$

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

الف) $y = \sqrt{[-n] \cdot 2}$

مخرج صفر → $(x-1)$

$$\frac{x^2 - 2|x-1| - 2n+2}{x^2 - 2|x-1| - 2n+2} \rightarrow \frac{n+1}{x^2 - 2|x-1| - 2n+2}$$

$$\Delta = 4$$

$$(x = -2, \frac{1}{2})$$

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

الف) $y = \frac{x^2 + 4}{[n]^2 - 2[n] - 3}$

مخرج صفر → $([n] + 1)([n] - 3) \neq 0$

$$[n] \neq -1 \rightarrow n \neq [-1, 0)$$

$$[n] \neq 3 \rightarrow n \neq [3, 4)$$

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

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

مخرج صفر → $(x-1)$

$$\frac{x^2 - 2|x-1| - 2n+2}{x^2 - 2|x-1| - 2n+2} \rightarrow \frac{n+1}{x^2 - 2|x-1| - 2n+2}$$

$$\Delta = 4$$

$$(x = -2, \frac{1}{2})$$

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

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

مخرج صفر → $(x-1)$

$$\frac{x^2 - 2|x-1| - 2n+2}{x^2 - 2|x-1| - 2n+2} \rightarrow \frac{n+1}{x^2 - 2|x-1| - 2n+2}$$

$$\Delta = 4$$

$$(x = -2, \frac{1}{2})$$

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

$$D_f = \left\{n \mid n = k + \frac{1}{2}, k \in \mathbb{Z}\right\}$$

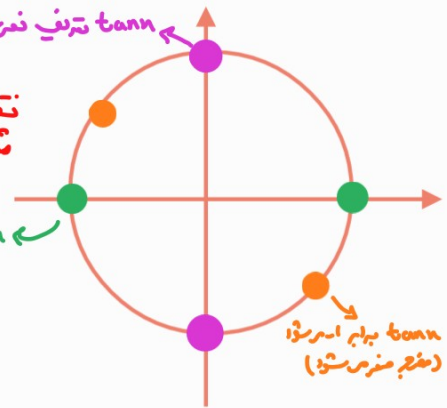
$y = \frac{\sin x}{\cos x} + 1 \rightarrow \sin x \neq 0$ $\frac{\sin x}{\cos x} + 1 \neq 0 \rightarrow \tan x \neq -1$ $\cos x \neq 0$ $D_f = \mathbb{R} - \left\{ k\pi + \frac{\pi}{4}, k\pi + \frac{5\pi}{4} \right\}$ $D_f = \mathbb{R} - \left\{ \frac{k\pi}{4}, k\pi - \frac{\pi}{4} \right\}$	$y = \sqrt{1 - \sin^2 x} \rightarrow \sin x \leq \frac{1}{\epsilon}$ $-\frac{1}{\epsilon} \leq \sin x \leq \frac{1}{\epsilon}$ $D_f = \left[k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4} \right] \cup \left[k\pi + \frac{3\pi}{4}, k\pi + \frac{5\pi}{4} \right]$
الف) $\sqrt{1 - \sin x} \geq 0$ $\sin x \leq \frac{1}{\epsilon}$ $(\frac{1}{\epsilon}, 1]$ $D_f = \left[k\pi + \frac{\pi}{4}, k\pi + \frac{5\pi}{4} \right]$	$y = \sqrt{1 - \cos x} \geq 0$ $\frac{1}{\epsilon} \geq \cos x$ $D_f = \left[k\pi + \frac{\pi}{4}, k\pi + \frac{3\pi}{4} \right]$
الف) $y = \arcsin(x^2 + 2n + 1)$ $-1 \leq x^2 + 2n + 1 \leq 1$ $x^2 + 2n + 2 \geq 0$ $(n+1)(n+2) \geq 0$ $\frac{-2 \pm \sqrt{4 - 4(1)(1)}}{2} = \frac{-2 \pm 0}{2} = -1$ $(-\infty, -1] \cup [1, \infty)$ $x^2 + 2n \leq 0$ $n(n+2) \leq 0$ $\frac{-2 \pm \sqrt{4 - 4(1)(1)}}{2} = \frac{-2 \pm 0}{2} = -1$ $[-1, 1]$ $D_f = [-1, 1]$	الف) $y = \sqrt{\sin x} \geq 0$ $0 \leq \sin x \leq \frac{1}{\epsilon}$ $0 \leq \sin x \leq 1$ $0 \leq x \leq \frac{\pi}{2}$ $D_f = \left[\frac{\pi}{2}, \frac{3\pi}{2} \right]$
$y = \log_2(1 - \log_2^n x)$ $1 - \log_2^n x > 0 \rightarrow \log_2^n x < 1$ $D_f = (0, 2)$	$y = \log_2(1 - \log_2^n \frac{1}{x})$ $1 - \log_2^n \frac{1}{x} > 0 \rightarrow 1 > \log_2^n \frac{1}{x} \rightarrow \frac{1}{x} > 2^n$ $D_f = (0, \frac{1}{2^n})$
$y = \sqrt{x^2 - n^2} \geq 0$ $x^2 - n^2 \geq 0$ $(n-1)(n-2) \leq 0$ $D_f = [1, 2]$	$y = \left(\frac{x+n}{x+\epsilon} \right)!$ $\frac{x+n}{x+\epsilon} \in \mathbb{N}$ $x+n \in \mathbb{N}(x+\epsilon)$ $x+n - x - \epsilon \in \mathbb{N} - \epsilon$ $n - \epsilon \in \mathbb{N}$ $n \in \mathbb{N}$ $D_f = \{n n = \frac{\delta - \epsilon k}{\epsilon}, k \in \mathbb{N}\}$

الف - ۹ $y = \frac{\cot x + 1}{\tan x + 1}$

نقاط نامعلوم را در دایره
مستطقی مشخص میکنیم.

$\cot x$ تقریب نمیشود

$\tan x$ تقریب نمیشود



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

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

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

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

ب - ۹ $y = \log_2 (1 - \log_{\frac{1}{2}} \frac{1}{x})$ $\rightarrow \log_{\frac{1}{2}} \frac{1}{x} \rightarrow x > 0$

$\hookrightarrow 1 - \log_{\frac{1}{2}} \frac{1}{x} > 0 \rightarrow \log_{\frac{1}{2}} \frac{1}{x} < 1$ مناسب (۱ و ۰) $\rightarrow x > \frac{1}{2}$

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