

الف) $y = \frac{\cot x + 1}{\tan x + 1} \rightarrow \tan x \neq -1 \rightarrow \tan 135^\circ$
 $\rightarrow R - \frac{1}{2}k\pi, k\pi + \frac{\pi}{2} \mid k\pi - \frac{\pi}{2}$
 $\mid \sin x > 0$

ب) $\tan x = \frac{\sin x}{\cos x} \rightarrow \sin x = 0 \rightarrow k\pi - \frac{\pi}{4}, k\pi + \frac{3\pi}{4}$
 $\rightarrow \sqrt{1 - \sin^2 x} = \sqrt{1 - \sin^2 x} \mid \sin x > 0$
 $\mid \sin x = \frac{1}{2}$
 $\mid \sin x = -\frac{1}{2}$
 $\rightarrow [k\pi - \frac{\pi}{6}, k\pi + \frac{\pi}{6}]$

الف) $y = \sqrt{1 - \sin^2 x} \rightarrow \sqrt{1 - \sin^2 x} \mid \sin x > 0$
 $\mid \sin x = \frac{1}{2}$
 $\mid \sin x = -\frac{1}{2}$
 $\rightarrow [k\pi - \frac{\pi}{6}, k\pi + \frac{\pi}{6}]$

ب) $y = \sqrt{1 - \cos^2 x} \rightarrow \sqrt{1 - \cos^2 x} \mid \cos x > 0$
 $\mid \cos x = \frac{1}{2}$
 $\mid \cos x = -\frac{1}{2}$
 $\rightarrow [k\pi + \frac{\pi}{3}, k\pi + \frac{2\pi}{3}]$

الف) $y = \arcsin(\sin(x+1)) \rightarrow x+1 \in [-\frac{\pi}{2}, \frac{\pi}{2}] \rightarrow x \in [-\frac{\pi}{2} - 1, \frac{\pi}{2} - 1]$
 $\mid \sin(x+1) \in [-1, 1]$
 $\mid \sin(x+1) = \frac{1}{2}$
 $\mid \sin(x+1) = -\frac{1}{2}$
 $\rightarrow [k\pi + \frac{\pi}{6}, k\pi + \frac{5\pi}{6}]$

ب) $y = \arccos(\cos(x+1)) \rightarrow x+1 \in [0, \pi] \rightarrow x \in [-1, \pi - 1]$
 $\mid \cos(x+1) \in [-1, 1]$
 $\mid \cos(x+1) = \frac{1}{2}$
 $\mid \cos(x+1) = -\frac{1}{2}$
 $\rightarrow [k\pi, k\pi + \pi]$

الف) $y = \log_p(x) \rightarrow \log_p(x) > 0 \rightarrow x > 1$
 $\mid \log_p(x) > 0 \rightarrow x > 1$
 $\mid \log_p(x) > 0 \rightarrow x > 1$

ب) $y = \log_p(x) \rightarrow \log_p(x) < 0 \rightarrow x < 1$
 $\mid \log_p(x) < 0 \rightarrow x < 1$
 $\mid \log_p(x) < 0 \rightarrow x < 1$

الف) $y = \log_p(x) \rightarrow \log_p(x) > 0 \rightarrow x > 1$
 $\mid \log_p(x) > 0 \rightarrow x > 1$
 $\mid \log_p(x) > 0 \rightarrow x > 1$

ب) $y = \log_p(x) \rightarrow \log_p(x) < 0 \rightarrow x < 1$
 $\mid \log_p(x) < 0 \rightarrow x < 1$
 $\mid \log_p(x) < 0 \rightarrow x < 1$

الف) $y = \log_p(x) \rightarrow \log_p(x) > 0 \rightarrow x > 1$
 $\mid \log_p(x) > 0 \rightarrow x > 1$
 $\mid \log_p(x) > 0 \rightarrow x > 1$

ب) $y = \log_p(x) \rightarrow \log_p(x) < 0 \rightarrow x < 1$
 $\mid \log_p(x) < 0 \rightarrow x < 1$
 $\mid \log_p(x) < 0 \rightarrow x < 1$

$$y = \frac{x+3}{x^3+3x^2-18x+3} = \frac{x+3}{(x-1)(x^2+5x-3)} = \frac{x+3}{(x-1)(x-1)(x+3)} = \frac{1}{x-1}$$

$$x^2+5x-3 \rightarrow x^2+5x-4 \rightarrow (x+4)(x-1) = x+4 \rightarrow x = -4 \rightarrow x = \frac{1}{4} \rightarrow x = \frac{1}{4}$$

$$y = \frac{x+3}{x^3+9x^2+11x+3} = \frac{(x+3)}{(x+3)(x^2+10x+3)} = \frac{1}{x^2+10x+3}$$

$$x^2+10x+3 \rightarrow x^2+10x+25 \rightarrow (x+5)^2 \rightarrow x = -5 \rightarrow x = -5$$

$$y = \frac{x+3}{x^3-2x^2+2x-1} = \frac{x+3}{(x-1)(x^2-x+1)} = \frac{1}{x^2-x+1}$$

$$y = \frac{x+3}{x^3-2x^2+2x-1} = \frac{x+3}{(x-1)(x^2-x+1)} = \frac{1}{x^2-x+1}$$

$$\Delta = b^2 - 4ac = 1 - 4(1)(1) = -3 < 0$$

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

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

$$x^2-\delta|x-1|-2x+\delta \rightarrow x^2+\delta(x-1)-2x+\delta = x^2-\delta x+\delta-2x+\delta = x^2-(\delta+2)x+2\delta$$

$$y = \frac{x}{x^2-\delta|x-1|-2x+\delta} = \frac{x}{x^2-(\delta+2)x+2\delta} = \frac{x}{x^2-(\delta+2)x+2\delta}$$

صفحه بعد!

$$y = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4}$$

$$y = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4}$$

$$y = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4}$$

$$y = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4}$$

$$y = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4}$$

$$y = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4}$$

$$y = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4}$$

$$y = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4} = \frac{x+4}{x^2+4}$$

$$\text{ب-4)} \quad [n]^2 - 2[n] - 3 = 0 \xrightarrow{[n]=t} t^2 - 2t - 3 = 0 \rightarrow (t-3)(t+1) = 0$$

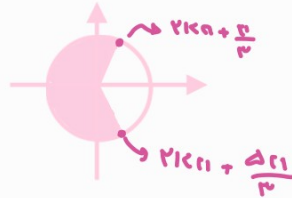
$$t=3 \rightarrow [n]=3 \rightarrow n \in [3, 4)$$

$$t=-1 \rightarrow [n]=-1 \rightarrow n \in [-1, 0)$$

$$\rightarrow \text{Df}_z (-\infty, -1) \cup [3, 3) \cup [4, +\infty)$$

$$\mathbb{R} - \bigcup_{\substack{\text{ب} \\ \text{ب}}} \{ [3, 4) \cup [4, 5) \}$$

$$\text{ب-5)} \quad 1 - 2\cos n > 0 \rightarrow \cos n < \frac{1}{2}$$



$$\rightarrow \text{Df}_z [2k\pi + \frac{\pi}{3}, 2k\pi + \frac{5\pi}{3}]$$

$$\text{ب-9)} \quad y = \log_2 (1 - \log_2 \frac{n}{2}) \rightarrow \log_2 \frac{n}{2} \rightarrow n > 0$$

$$\hookrightarrow 1 - \log_2 \frac{n}{2} > 0 \rightarrow \log_2 \frac{n}{2} < 1 \xrightarrow{\text{مناسب (1, 2)}} n > \frac{1}{2}$$

$$\text{Df}_z (\frac{1}{2}, +\infty)$$