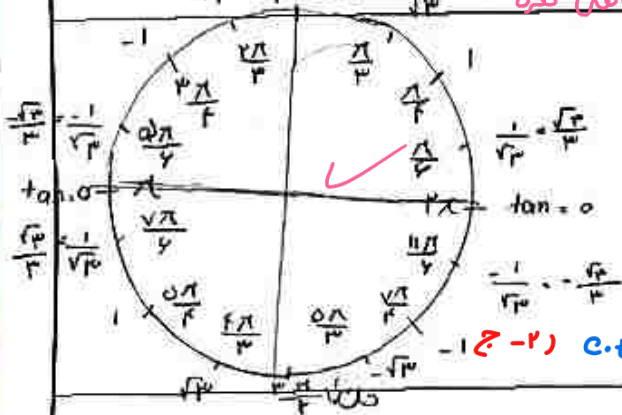




از دست نده

$$C \cdot \frac{1}{\sqrt{3}} + 3C \cdot \frac{1}{\sqrt{3}} - 2 \tan \frac{\pi}{4} = -\sqrt{3} + 3(\sqrt{3}) - 2(-\sqrt{3}) = 4\sqrt{3}$$

الف) $\sin \frac{\pi}{4} + \cos \pi + 2 \tan \frac{3\pi}{4} \Rightarrow \frac{1}{\sqrt{2}} + (-1) + (-2) \Rightarrow \frac{-5}{\sqrt{2}}$

ب) $-\cos \frac{5\pi}{4} + \sin \frac{3\pi}{4} - 3 \sin \frac{\pi}{4} \Rightarrow \frac{\sqrt{2}}{2} + \frac{\sqrt{2}}{2} + \frac{3\sqrt{2}}{2} = \frac{5\sqrt{2}}{2}$ دست! (۱, ۷۵)

ج) $\cot \frac{3\pi}{4} + 3 \cot \frac{\pi}{4} + \tan \frac{5\pi}{4} \Rightarrow -\frac{1}{\sqrt{3}} + \frac{3}{\sqrt{3}} + \frac{1}{\sqrt{3}} = \frac{3}{\sqrt{3}} \Rightarrow \frac{3\sqrt{3}}{3} = \sqrt{3}$

د) $\cos(\sin \pi) + \sin(\pi \cos \frac{\pi}{4}) \Rightarrow 1 + 1 = 2$ صورت سوال را استخوان نوشتی :-

$f(x) = \begin{cases} x^2 + fa & x \geq 1 \\ xa + a + r & x < 1 \end{cases} \Rightarrow \begin{aligned} x=a & \Rightarrow a^2 + fa = ra + a + r \\ a^2 + a + r & = \\ (a-1)(a+r) & \begin{cases} a = -r \text{ و } a > 0 \\ a = 1 \end{cases} \end{aligned}$

Divisibility
 $\rightarrow f(1) = \begin{cases} 1+1+r=0 \\ 1+r=0 \end{cases}$

$f(x) = \begin{cases} xa^2 - b & |x+1| \geq 2 \\ a + 2xa & -2 \leq x \leq -1 \end{cases} \Rightarrow \begin{aligned} & \frac{x+1 \geq 2}{x \geq 1} \quad \frac{x+1 \leq -2}{x \leq -3} \end{aligned}$

if $x = -3 \rightarrow 1a - b = a - r$

$\begin{aligned} 1a + r &= a + b \\ 2r &= a + b \end{aligned}$

الف) $y = \frac{1}{a^2 - fa^2} \rightarrow \begin{aligned} a^2 - fa^2 &= 0 \\ a^2(a-f) &= 0 \end{aligned} \quad \begin{aligned} Df &= R - \{0, f\} \\ a=0 \\ a=f \end{aligned}$

ب) $\frac{1}{ra^2 + ra^2 + ra + r} \rightarrow \frac{1}{ra^2(x+r) + r(x+r)} \Rightarrow \frac{1}{(x+r)(ra^2+r)}$
 $(x+r)(ra^2+r) = 0 \rightarrow x = -r \quad Df = R - \{-r\}$

+ a, b

الف) $y = \sqrt{x^2 - 1} + \sqrt{x - 2} \Rightarrow x^2 - 1 \geq 0 \rightarrow (x+1)(x-1) \geq 0 \quad \frac{-1}{+} \frac{-1}{-} \frac{+}{+}$ ①

$x - 2 \geq 0 \rightarrow x \geq 2$ ②

① ② $\Rightarrow D_f = (2, +\infty)$

ب) $y = \frac{\sqrt{4 - 3x}}{\sqrt{4x - 1^2}} \rightarrow 4 - 3x \geq 0 \rightarrow 4 \geq 3x \rightarrow x \leq \frac{4}{3}$ $D_f = (\frac{1}{4}, \frac{4}{3}]$
 $\sqrt{4x - 1^2} \rightarrow 4x - 1^2 \geq 0 \rightarrow 4x \geq 1 \rightarrow x \geq \frac{1}{4}$

$y = \sqrt{xd - a} + \sqrt{b - px}$

$xd - a \geq 0 \rightarrow xd \geq a \rightarrow x \geq \frac{a}{d}$

$b - px \geq 0 \rightarrow px \leq b \rightarrow x \leq \frac{b}{p}$

$\frac{b}{p} = r \rightarrow \boxed{b = pr}$ $\frac{a}{d} = r \rightarrow \boxed{a = dr}$

$\frac{b}{a} = \frac{pr}{dr} = \left(\frac{p}{d}\right)$

الف) $\sqrt{\frac{x^2 - x - 2}{x^2 - 13x^2 + 3^2y}} \Rightarrow \sqrt{\frac{(x-2)(x+1)}{(x^2-1)(x^2-9)}} \Rightarrow \sqrt{\frac{(x-2)(x+1)}{(x+1)(x-1)(x+3)(x-3)}} \Rightarrow$
 $\frac{-2}{+} \frac{+}{-} \frac{+}{-} \frac{+}{+} \quad D_f = (-\infty, -2) \cup (2, 3) \cup (3, +\infty) \cup (-\infty, -3) \cup (3, +\infty) = (-2, 2) \cup (3, 3)$

ب) $y = \sqrt{\frac{x^2 - 2x^2 - 5x + 2}{x^2 + 2x^2 - 5x - 2}} \Rightarrow \sqrt{\frac{(x-1)(x-2)(x+2)}{(x+1)(x+2)(x+1)}} \Rightarrow \frac{-1}{+} \frac{-2}{-} \frac{+}{-} \frac{+}{+} \quad D_f = (-\infty, -2) \cup (-2, -1) \cup (1, 2) \cup (2, +\infty)$

الف) $y = \sqrt{r[x] - 2} \Rightarrow r[x] \geq 2 \rightarrow [x] \geq 2 \rightarrow D_f = [2, +\infty)$

ب) $y = \sqrt{r[x] - 5} \Rightarrow r[x] \geq 5 \rightarrow [x] \geq 5 \rightarrow D_f = [5, +\infty)$

$x \geq -1$

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

$|x-1| = 1 \rightarrow x = 2$

هواره مثبت است نیاز به تبیین علامت x

$(x+2)^2 \quad [1, 2) \cup (2, +\infty) \cap ((-\infty, -2) \cup [-2, 2]) \Rightarrow [-1, 2) \cup (2, 2]$

ب) $y = \sqrt{[x] - 1} + \sqrt{2 - [x]} \Rightarrow$

$[x] - 1 \geq 0 \rightarrow [x] \geq 1 \rightarrow x \geq 1$ $\left\{ \begin{array}{l} 2 - [x] \geq 0 \\ 2 \geq [x] \rightarrow x < 3 \end{array} \right\}$

(١٠-الف) $y = \sqrt{\frac{n+1}{|n-4|}} + \sqrt{\frac{4-n}{n^2+2n+2}}$

$\begin{cases} \frac{n+1}{|n-4|} \geq 0 \rightarrow n \geq -1, n \neq 4 \text{ I} \\ \frac{4-n}{n^2+2n+2} \geq 0 \rightarrow n \leq 4 \text{ II} \end{cases}$

$\Delta < 0$, محاوره مثبت و بدون مقدره
 $\Delta < 0$, محاوره مثبت و بدون مقدره

$I \cap II \rightarrow D_f = [-1, 4) \cup (4, 4] \subseteq [-1, 4] - \{4\}$