

$\frac{(x-1)(x^2-x-4)}{(x+1)(x^2+x-4)} = \frac{(x-1)(x-2)(x+2)}{(x+1)(x+2)(x-2)} = \frac{-1-1-1-1}{+1-1-1-1} = -1$
 $P_f = (-\infty, -2) \cup [-2, -1) \cup [1, 2) \cup [2, +\infty)$

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

$x-2 \geq 0 \Rightarrow x \geq 2 \Rightarrow (-\infty, -1] \cup [1, +\infty) \cap [2, +\infty) = [2, +\infty)$

ب) $y = \frac{\sqrt{4-x}}{\sqrt{4x-2}}$

$4-x \geq 0 \Rightarrow x \leq 4 \Rightarrow x \leq 4$

$4x-2 \geq 0 \Rightarrow 4x \geq 2 \Rightarrow x \geq \frac{1}{2}$

$\cap = \left[\frac{1}{2}, 4\right]$

$4x-a \geq 0 \Rightarrow 4x \geq a \Rightarrow x \geq \frac{a}{4}$

$b-2x \geq 0 \Rightarrow -2x \geq -b \Rightarrow x \leq \frac{b}{2}$

$\cap = \left\{ \frac{1}{2} \right\}$

$\Rightarrow \frac{a}{4} = \frac{b}{2} = \frac{1}{2} \Rightarrow a=2, b=2 \Rightarrow \frac{a}{b} = \frac{2}{2} = 1$

سوال $\frac{b}{a} = \frac{1}{2}$ در خواست ن

الف) $\frac{x^2-x-4}{x^2-12x+4}$

$= \frac{(x-2)(x+2)}{(x-2)(x-6)} \Rightarrow \frac{-2-2-2-2}{+1-1-1-1}$

$\Rightarrow P_f = (-\infty, -2) \cup (-2, +\infty) - \{2\}$

ب) $\frac{x^2-2x^2-5x+4}{x^2+2x^2-5x-4}$

$= \frac{(x-1)^2 + x^2 - 11x + 4}{(x+1)^2 - x^2 - 11x - 4} = \frac{(x-1)^2 + (x+1)(x-4)}{(x-1)^2 + (x+1)(x+4)}$

الف) $y = \sqrt{2[x]-2}$

$2[x]-2 \geq 0 \Rightarrow [x] \geq 1 \Rightarrow P_f = [1, +\infty)$

ب) $y = \sqrt{2[x]-a}$

$2[x]-a \geq 0 \Rightarrow [x] \geq \frac{a}{2} \Rightarrow P_f = \left[\frac{a}{2}, +\infty\right)$

ناهمبستگی نیاز به تین علامت نبود!

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

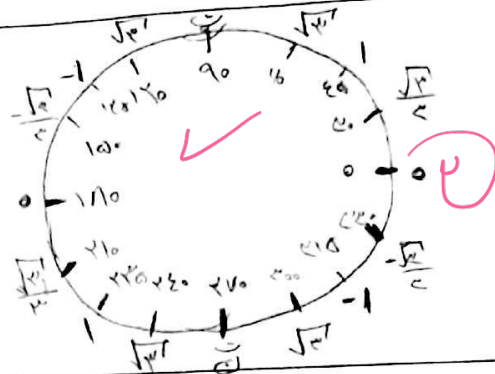
$\frac{-1-1-1-1}{+1-1-1-1} \cap \frac{-1-1-1-1}{+1-1-1-1} = (-\infty, -1] \cup (1, 2) - \{1\}$

ب) $\sqrt{[x]-2} + \sqrt{2-[x]}$

$[x]-2 \geq 0 \Rightarrow [x] \geq 2 \Rightarrow x \geq 2, 2-[x] \geq 0 \Rightarrow [x] \leq 2 \Rightarrow x < 3$

$\Rightarrow P_f = \emptyset$

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۲ کلاس: یازدهم



$$1) \sin \frac{\pi}{4} + \cos \frac{\pi}{4} + \tan \frac{\pi}{4} = \frac{1}{\sqrt{2}} + \frac{1}{\sqrt{2}} + 1 = \frac{1}{\sqrt{2}} + \frac{1}{\sqrt{2}} + 1 = \frac{2}{\sqrt{2}} + 1 = \sqrt{2} + 1$$

$$2) -\cos \frac{\pi}{4} + \sin \frac{\pi}{4} - \tan \frac{\pi}{4} = -\frac{1}{\sqrt{2}} + \frac{1}{\sqrt{2}} - 1 = 0 - 1 = -1$$

$$3) \cot \frac{\pi}{4} + \tan \frac{\pi}{4} - \sec \frac{\pi}{4} = 1 + 1 - \sqrt{2} = 2 - \sqrt{2}$$

$$4) \cos(\sin \frac{\pi}{4}) + \sin(\cos \frac{\pi}{4}) = \cos(\frac{1}{\sqrt{2}}) + \sin(\frac{1}{\sqrt{2}})$$

$$f(x) = \begin{cases} x^2 + \varepsilon x & x > a \\ 2x + a + \varepsilon & x \leq a \end{cases} \quad x = a: a^2 + \varepsilon a$$

$$\Rightarrow a^2 + \varepsilon a = 2a + a + \varepsilon \quad \begin{cases} a = 1 \\ a = \frac{1}{2} \\ a > 0 \end{cases}$$

$$f(x) = \begin{cases} 2x^2 - b & |x+1| \geq 1 \quad x = -3: 11-b \\ a + 2x & -1 \leq x \leq 1 \quad x = -1: a-2 \end{cases}$$

$$\Rightarrow 11-b = a-2 \Rightarrow a+b = 13$$

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

$$1) y = \frac{1}{2x^2 + \varepsilon x^2 + 2x + \varepsilon} \quad \Rightarrow x^2(x^2 - \varepsilon) \neq 0 \Rightarrow x \neq \varepsilon, 0$$

$$\text{ب-٢)} \quad -C \cdot \frac{\Delta n}{4} + 8 \sin \frac{\pi n}{3} - 3 \sin \frac{\pi n}{4} = -(-\sqrt{\frac{3}{4}}) + \sqrt{\frac{3}{4}} - 3(-\sqrt{\frac{3}{4}}) = \frac{5\sqrt{3}}{2}$$

$$\text{ج-٢)} \quad C \cdot \frac{\pi n}{3} + 3C \cdot \frac{\pi n}{3} - 2 \sin \frac{\pi n}{4} = -\sqrt{\frac{3}{4}} + 3(\sqrt{\frac{3}{4}}) - 2(-\sqrt{\frac{3}{4}}) = \frac{4\sqrt{3}}{3}$$

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

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

$\Delta < 0$ ، محاوره مثبت وبدون مفردات!
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$$\xrightarrow{I \cap II} D_f = [-1, 4) \cup (4, 4] \subseteq [-1, 4] - \{4\}$$