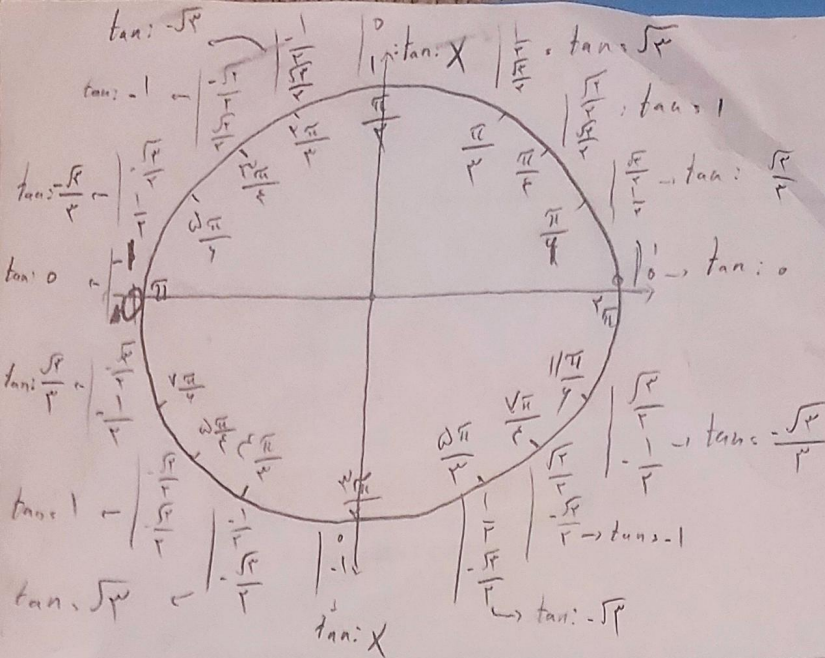


سری شفا علی بابا زخم سران B



الف) $\frac{1}{r} + (-1) + (-2) = -2/5$

ب) $\frac{\sqrt{3}}{2} + \frac{\sqrt{2}}{2} + \frac{3\sqrt{3}}{2} = \frac{4\sqrt{3}}{2}$

ج) $\frac{-\sqrt{3}}{2} + \frac{3\sqrt{2}}{2} + \frac{2\sqrt{3}}{2} = \frac{4\sqrt{3}}{2}$

د) $\underbrace{\cos(0)}_1 + \underbrace{\sin(\frac{\pi}{2})}_1 = 2$

$a^2 + 2a = 2a + 1 \Rightarrow a^2 + a - 1 = 0$

$(a+2)(a-1) \begin{cases} a=1 \checkmark \\ a=-2 \times \end{cases}$

$f_{(1)} = 1 + 1 = 2$

اگر $f(x) = \ln - b = a - 1 \Rightarrow \boxed{2f = a + b}$
 $\Rightarrow -1 + 1 = 2 \Rightarrow 2 \ln - b = a + 1$

الف) $\sin(\pi - \frac{\pi}{4}) \Rightarrow D_f, \mathbb{R} - \{0, \frac{\pi}{4}\}$

ب) $n^2(2n+1) + (2n+1) = (2n+1) \underbrace{(n^2+1)}_+ \Rightarrow D_f, \mathbb{R} - \{-1\}$

$$\text{الف) } \left. \begin{aligned} &\sqrt{(n+1)(n-1)} \rightarrow \begin{cases} n \geq 1 \\ n \leq -1 \end{cases} \\ &\sqrt{n-2} \rightarrow n \geq 2 \end{aligned} \right\} \Rightarrow n \geq 2, D_f = [2, +\infty) \quad (4)$$

$$\text{ب) } \left. \begin{aligned} &\sqrt{4-3n} \rightarrow n \leq 2 \\ &\sqrt{4n-3} \rightarrow n \geq \frac{1}{4} \end{aligned} \right\} \Rightarrow \frac{1}{4} \leq n \leq 2, D_f = \left[\frac{1}{4}, 2\right] \quad (5)$$

$$\left. \begin{aligned} &4n-a \geq 0 \Rightarrow 4n \geq a \Rightarrow n \geq \frac{a}{4} \\ &b-2n \geq 0 \Rightarrow b \geq 2n \Rightarrow n \leq \frac{b}{2} \end{aligned} \right\} \Rightarrow \left[\begin{aligned} &a=12 \\ &b=4 \end{aligned} \right] \Rightarrow \frac{1}{4} \leq \frac{4}{2} \Rightarrow \boxed{\frac{1}{2}} \quad (6)$$

$$\text{الف) } \sqrt{\frac{(n+2)(n-2)}{(n^2-4)^2 - n^2}} = \sqrt{\frac{(n+2)(n-2)}{(n^2-n-4)(n^2-4+n)}} = \sqrt{\frac{(n+2)(n-2)}{(n+2)(n-2)(n-2)(n+2)}} = \frac{-2 \times -2}{+2 \times -2 \times -2 \times +2} = \frac{4}{16} = \frac{1}{4}$$

$$\Rightarrow D_f = (-\infty, -2) \cup (2, 2) \cup (2, +\infty)$$

$$\begin{aligned} \text{ب) } &\frac{n^2(n-2) - (n+1)(n-1)}{n^2(n+1) - (n-1)(n+1)} = \frac{(n+2)(n-2) - (n-1)(n+1)}{(n+2)(n-2) - (n-1)(n+1)} \\ &\Rightarrow \frac{(n-2)(n^2+n+1-1)}{(n-2)(n+1)(n+2)} = \frac{(n-2)(n^2+n)}{(n-2)(n+1)(n+2)} \\ &\Rightarrow \frac{(n-2)(n^2+n)}{(n-2)(n+1)(n+2)} = \frac{(n-2)(n^2+n)}{(n-2)(n+1)(n+2)} \\ &\Rightarrow \frac{(n+2)(n^2-(n+1-1))}{(n+2)(n^2-(n+1-1))} = \frac{(n+2)(n-1)(n-2)}{(n+2)(n-1)(n-2)} \\ &\Rightarrow \frac{(n+2)(n-1)(n-2)}{(n+2)(n-1)(n-2)} = \frac{(n+2)(n-1)(n-2)}{(n+2)(n-1)(n-2)} \end{aligned}$$

$$D_f = \mathbb{R} - [-2, 2) \cup (-1, 1) \cup [2, 3) \quad (7)$$

$$\text{الف) } \left. \begin{aligned} &\sqrt{\frac{n+1}{n-3}} \rightarrow \begin{cases} n \geq -1 \\ n \neq 3 \end{cases} \\ &\sqrt{\frac{4-n}{n^2+n+1}} \rightarrow n \leq 4 \end{aligned} \right\} \Rightarrow D_f = [-1, 4] - \{3\} \quad (8)$$

$$\text{ب) } \left. \begin{aligned} &\sqrt{[n]-1} \rightarrow [n] \geq 1 \Rightarrow n \geq 1 \\ &\sqrt{2-[n]} \rightarrow [n] \leq 2 \Rightarrow n \leq 2 \end{aligned} \right\} \Rightarrow D_f = \emptyset \quad (9)$$