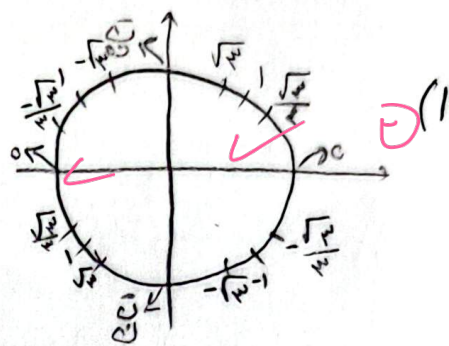


۲۰. آفرین وی به‌تدریج مراحل یقین‌کردن را به‌مدت تدریس می‌رود

نویسی ت



الف) $\frac{1}{2} - 1 + (-2) = -\frac{3}{2}$

ب) $(-\frac{\sqrt{3}}{4}) + \frac{\sqrt{3}}{4} - \frac{3}{4}(-\frac{\sqrt{3}}{4}) = \frac{3\sqrt{3}}{16}$

ج) $\frac{-\sqrt{2}}{4} + 2\frac{\sqrt{2}}{4} - 2(-\frac{\sqrt{2}}{4}) = \frac{4\sqrt{2}}{4} > 1 + 1 = 2$

$a^2 + 4a = 4a + 4 \rightarrow a^2 + a - 4 = 0 \rightarrow \begin{cases} a = -4 \\ a = 1 \end{cases}$

$f(1) = 1^2 + 4(1) = 5$

$x = -3 \Rightarrow 11 - b = -9 + a \rightarrow a + b = 20$

$\downarrow$
 $x \leq -3$ و $x \geq 1$
 $-3 \leq x \leq 1$

الف) $x^2 - 4x \neq 0 \Rightarrow x(x - 4) \neq 0 \rightarrow x \neq 0, 4 \Rightarrow D_f = \mathbb{R} - \{0, 4\}$

ب) $(x^2 + 1)(x + 4) \neq 0 \Rightarrow x \neq -4 \rightarrow D_f = \mathbb{R} - \{-4\}$

الف) $x^2 - 1 \geq 0 \Rightarrow x^2 \geq 1$ و $x \geq 2 \Rightarrow D_f = [2, +\infty)$

ب) $5 - 2x \geq 0 \rightarrow x \leq \frac{5}{2}$ و $4x - 2 > 0 \rightarrow x > \frac{1}{2} \Rightarrow D_f = (\frac{1}{2}, \frac{5}{2}]$

$a \leq b$ و $x \geq a \Rightarrow x \leq \frac{b}{2}$ و $x \geq \frac{a}{2}$

$\rightarrow \frac{b}{2} = \frac{a}{2} \Rightarrow \frac{b}{a} = 1$

الف) $y = \sqrt{\frac{(x-1)(x+1)}{(x^2-9)(x^2-4)}} \rightarrow \frac{-2 - 1^*}{+3 - 1^* - 1^* + 1^*} \rightarrow D_f = (-\infty, -1) \cup (1, 3) \cup (3, +\infty)$

ب) $y = \sqrt{\frac{(x-1)(x-3)(x+1)}{(x+1)(x+3)(x-2)}} \rightarrow \frac{-2 - 1^* - 1^*}{+3 - 1^* + 1^* - 1^* + 1^*} \rightarrow D_f = (-\infty, -1) \cup [1, 3) \cup [3, +\infty)$

الف) $[x] \geq 2 \Rightarrow x \geq 2 \rightarrow D_f = [2, +\infty)$

ب) $[x] \geq 2 \Rightarrow x \geq 2 \rightarrow D_f = [2, +\infty)$

$$c) y = \sqrt{\frac{x+1}{x-1}} + \sqrt{\frac{6-x}{x^2+x+5}} \rightarrow x \leq 4 \quad (1)$$

$$\rightarrow DA = [-1, 9] \cup (-9, 4]$$

$$\rightarrow \frac{-1}{-1+\frac{x+1}{x-1}} \rightarrow x \geq -1 - \{x \neq -1\} \rightarrow (3)$$

$$c) [x] \geq 8 \rightarrow \underbrace{x \geq 8}_A$$

$$[x \leq 4] \rightarrow \underbrace{x \leq 4}_B \rightarrow DA = A \cap B = \emptyset$$

⊂