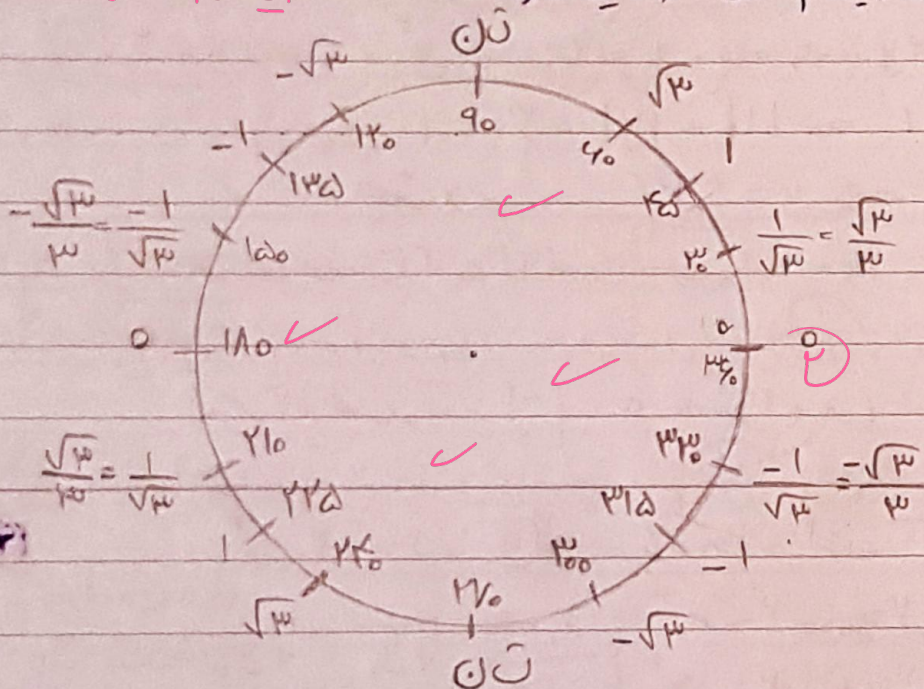


۲. نیمین خوب نوشت

مؤال باقری / یازدهم (خند) / لطیف شماره ۲

(1)



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

(2)

ب $\frac{\sqrt{3}}{2} + \frac{\sqrt{3}}{2} + \frac{2\sqrt{3}}{2} = \frac{2\sqrt{3}}{2} \times \sqrt{3} = \frac{6}{2} = 3$

ج $\frac{-1}{\sqrt{3}} + \frac{\sqrt{3}}{\sqrt{3}} - \left(\frac{-2}{\sqrt{3}}\right) = \frac{4}{\sqrt{3}} = \frac{4\sqrt{3}}{3}$

د $1 + 1 = 2$

$a^2 + ka = ka + a + 2 \quad a^2 + ka = ka + 2$

(3)

$a^2 + a - 2 = 0 \quad (a+2)(a-1) = 0 \Rightarrow a = 1$

$a > 0 \Rightarrow x \leftarrow (-2) \leftarrow (1) \checkmark$

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

$x = -3 \Rightarrow \frac{1}{2}(-3)^2 - b = a + \frac{1}{2}(-3) \Rightarrow 11 + 4 = a + b$

(4)

$a + b = 15$

الف) $x^3 - 4x^2 \neq 0 \quad x^2(x-4)$ $\mathbb{R} - \{0, 4\}$ (A)

ب) $x^3 + 4x^2 + 4x + 4 \neq 0 \quad x^2(x+4) + (4x+4) \neq 0$
 $(x+4)(x^2+1) \neq 0 \quad \mathbb{R} - \{-4\}$

الف) $x^2 - 1 \geq 0 \quad x^2 \geq 1 \quad \boxed{x \geq 1 \quad x \leq -1}$ (C)
 $x - 2 \geq 0 \quad \boxed{x \geq 2} \rightarrow \underline{x \geq 2}$

ب) $4 - 3x \geq 0 \quad 4 \geq 3x \quad 2 \geq x$
 $4x - 3 > 0 \quad 4x > 3 \quad x > \frac{3}{4}$ $[\frac{3}{4}, 2]$

$4x - a \geq 0 \quad 4x \geq a \quad x \geq \frac{a}{4}$
 $b - 3x \geq 0 \quad b \geq 3x \quad \frac{b}{3} \geq x$ $\left. \begin{matrix} a=12 \\ b=4 \end{matrix} \right\} \Rightarrow \frac{4}{12} = \frac{1}{3}$ (V)

الف) $\frac{(x-3)(x+2)}{(x^2-9)(x^2-4)} = \frac{(x-3)(x+2)}{(x-3)(x+3)(x-2)(x+2)}$ (A)
 $\frac{-3}{-3} \frac{2}{2} \frac{1}{1} \frac{1}{1}$
 $+ \frac{1}{1} - \frac{1}{1} - \frac{1}{1} + \frac{1}{1}$ $(-\infty, -3) \cup (2, +\infty) - \{3\}$

ب) $x^3 - 2x^2 - 5x + 4 \mid x-1$
 $x^3 + 2x^2 - 5x - 4 \mid x+1$
 $x^2 + x - 4 \Rightarrow (x+3)(x-2)$

$\frac{(x-3)(x+2)(x-1)}{(x+3)(x-2)(x+1)} \geq 0$ (C)
 $\frac{-3}{-3} \frac{2}{2} \frac{1}{1} \frac{1}{1}$
 $+ \frac{1}{1} - \frac{1}{1} - \frac{1}{1} + \frac{1}{1}$

$D_f = (-\infty, 3) \cup (-2, -1) \cup [1, 2) \cup [3, +\infty)$

$$\text{الف) } 2[x] - 4 \geq 0 \quad [x] \geq 2 \quad [2, +\infty) \quad (9)$$

$$\text{ب) } 2[x] - 5 \geq 0 \quad [x] \geq 2.5 \quad [3, +\infty) \quad (2)$$

$$\text{الف) } \frac{x+1}{1x-3} \geq -1 \quad \frac{-1}{-1} + \frac{3}{1} + \quad (10)$$

$$\frac{4-x}{1x-3} \geq 4 \quad \frac{4}{+1} - \quad \Rightarrow [-1, 4] - \{3\}$$

$$\Delta < 0 \quad \checkmark \quad (2)$$

$$\text{ب) } [x] - 4 \geq 0 \quad [x] \geq 4 \quad [4, +\infty) \quad \Rightarrow \emptyset$$

$$2 - [x] \geq 0 \quad 2 \geq [x] \quad (-\infty, 2] \quad \Rightarrow \emptyset$$