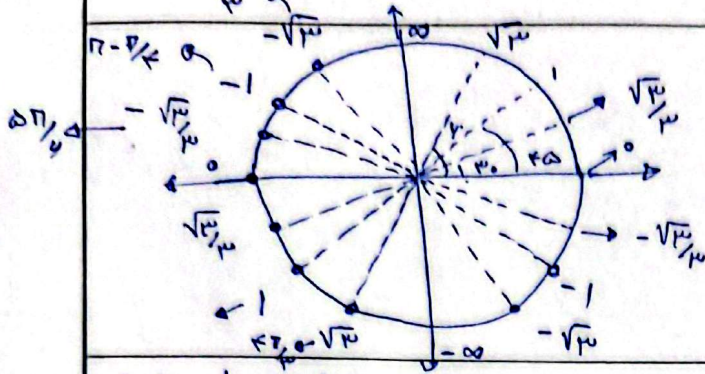




۰ - ۳۰ - ۴۵ - ۶۰ - ۹۰
۱۲۰ - ۱۳۵ - ۱۵۰ - ۱۸۰
۱۵۰ - ۱۴۵ - ۱۲۰ - ۹۰
۲۷۰ - ۳۳۰ - ۳۰۰ - ۲۷۰

الف) $\frac{1}{4} + (-1) + 2(-1) = -\frac{5}{4}$

ب) $-(-\frac{\sqrt{3}}{4}) + (\frac{\sqrt{3}}{4}) - 3(-\frac{\sqrt{3}}{4}) = \frac{5\sqrt{3}}{4}$

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

د) $\cos 0 + \sin(\frac{\pi}{4}) = 1 + 1 = 2$

مثال $\rightarrow n = a \rightarrow a^2 + 4a = 2a + a + 2$

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

$\begin{cases} a=1 \rightarrow 2n+4n & n \geq 1 \\ & 2n+2 & n \leq 1 \end{cases}$

$a=-2 \rightarrow 2n+4n & n \geq -2 \\ & 2n & n \leq -2$

$P(1) = 1$

$a > 0$

$\begin{cases} 2n^2 - b \\ a + 2n \end{cases} \rightarrow \begin{cases} n+1 \geq 2 & n+1 \leq -2 \\ n \geq 1 & n \leq -3 \end{cases}$

$n = -3 \rightarrow 18 - b = a - 4 \rightarrow a + b = 22$

مثال

الف) $y = \frac{1}{n^3 - 4n^2}$

$n^2(n-4) = 0 \rightarrow \begin{cases} n=0 \\ n=4 \end{cases}$

$D = R - \{0, 4\}$

ب) $y = \frac{1}{2n^3 + 4n^2 + 2n + 4}$

$2(n^3 + 2n^2 + n + 2) = 0$

$(n-2)(2n^2 + 4n + 4) = 0$

$D = R - \left\{ 2, \frac{-4 - \sqrt{40}}{2}, \frac{-4 + \sqrt{40}}{2} \right\}$

الف) $y = \sqrt{x^2-1} + \sqrt{x-2}$ $x^2-1 \geq 0 \rightarrow x^2 \geq 1$ $x-2 \geq 0 \rightarrow x \geq 2$ $D: [2, +\infty)$ ب) $y = \frac{\sqrt{4-3x}}{\sqrt{4x-3}}$ $4-3x \geq 0 \rightarrow 3x \leq 4 \rightarrow x \leq \frac{4}{3}$ $4x-3 \geq 0 \rightarrow 4x \geq 3 \rightarrow x \geq \frac{3}{4}$ $D: (\frac{3}{4}, \frac{4}{3}]$	$x-2 \geq 0 \rightarrow x \geq 2$ $x^2-1 \geq 0 \rightarrow x^2 \geq 1$ $D: [2, +\infty)$	
$y = \sqrt{4x-a} + \sqrt{b-3x}$ $4x-a \geq 0 \rightarrow x \geq \frac{a}{4}$ $b-3x \geq 0 \rightarrow 3x \leq b \rightarrow x \leq \frac{b}{3}$ $D = \{2\}$ $\frac{a}{4} = \frac{b}{3} = 2$ $\frac{b}{a} = \frac{3}{4} = \frac{1}{\frac{4}{3}}$	$D = \{2\}$ $\frac{b}{a} = ?$	✓
الف) $x^2-x-4 = 0 \rightarrow (x-3)(x+2) < 3$ $x^2-13x^2+34 = 0 \rightarrow (x^2-4)(x^2-9)$ $D = (-\infty, 3) \cup (2, 3) \cup (3, +\infty)$ ب) $\frac{(x-1)(x^2-x+4)}{(x+1)(x^2+x-4)}$ $D = (-\infty, -3) \cup [-2, -1) \cup [1, 2) \cup [3, +\infty)$	$x^2-x-4 = 0 \rightarrow (x-3)(x+2) < 3$ $x^2-13x^2+34 = 0 \rightarrow (x^2-4)(x^2-9)$ $D = (-\infty, -3) \cup (2, 3) \cup (3, +\infty)$	Λ
الف) $y = \sqrt{2[x]-4}$ $2[x]-4 \geq 0 \rightarrow 2[x] \geq 4 \rightarrow [x] \geq 2$ $D = [2, +\infty)$ ب) $y = \sqrt{2[x]-5}$ $2[x]-5 \geq 0 \rightarrow 2[x] \geq 5 \rightarrow [x] \geq \frac{5}{2}$ $\rightarrow x \geq 3 \rightarrow D = [3, +\infty)$	$2[x]-4 \geq 0 \rightarrow 2[x] \geq 4 \rightarrow [x] \geq 2$ $D = [2, +\infty)$	9
الف) $x+1 \geq 0 \rightarrow x \geq -1$ $x-3 \leq 0 \rightarrow x = 3$ $D: [-1, 3) \cup (3, 4]$ ب) $[x]-4 \geq 0 \rightarrow [x] \geq 4 \rightarrow x \geq 4$ $2-[x] \geq 0 \rightarrow [x] \leq 2 \rightarrow x < 2$ $D = \{ \}$	$x+1 \geq 0 \rightarrow x \geq -1$ $x-3 \leq 0 \rightarrow x = 3$ $D: [-1, 3) \cup (3, 4]$	10