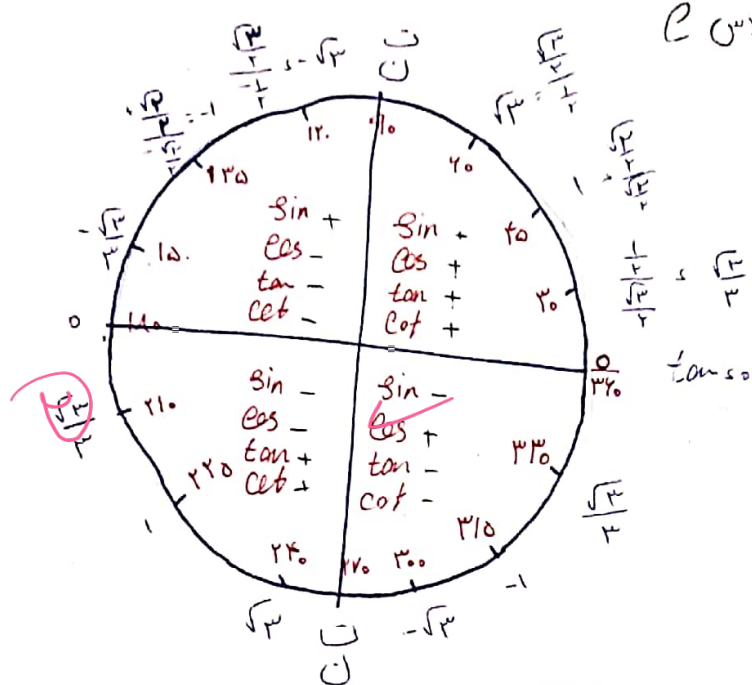


۱۸/۵ حتماً صفحه ۱۸
که نوشتم را با دقت بخوان
آهین



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

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

ج) $-2) - \cos \frac{\pi}{4} + \sin \frac{\pi}{3} - 3 \sin \frac{\pi}{6} = -(-\frac{\sqrt{2}}{2}) + \frac{\sqrt{3}}{2} - 3(-\frac{1}{2}) = \frac{3\sqrt{2} + \sqrt{3} + 3}{2}$

۱) a متغیری $= a^2 + 4a = 2a + a + 2 \Rightarrow a^2 + a - 2 = 0$
 $(a-1)(a+2) = 0$
 $a = 1$ یا $a = -2$

۲) a متغیری عددی $\rightarrow \frac{1+4}{1+1} = \frac{5}{2}$
 در هر دو طرف بساطت

$2x^2 + 4x \rightarrow |n+1| \geq 2 \rightarrow \begin{cases} n+1 \geq 2 \\ n+1 \leq -2 \end{cases} \Rightarrow \begin{cases} n \geq 1 \\ n \leq -3 \end{cases}$

$a + 2n \rightarrow -3 \leq n \leq -1$

$2(-3)^2 - b = a + 2(-3) \Rightarrow a = 12 - b - 6 = 6 - b$
 $12 - b = a - 6 \Rightarrow a + b = 18$

الف) $n^3 - 4n^2 \neq 0 \Rightarrow n^2(n-4) \neq 0 \Rightarrow Df = \{1, 2, 3, 4\}$

ب) $n^3 - 4n^2 = 2(n^3 + 2n^2 + n + 2) \neq 0 \Rightarrow 2 = 2(n^2(n+2) + (n+2))$
 $n^2(n+2) + (n+2) = 1$

$\rightarrow n^2(n+2) + (n+2) = 1 \Rightarrow (n+2)(n^2 + 1) = 1$
 $n+2 = 1 \Rightarrow n = -1$
 $n^2 + 1 = 1 \Rightarrow n^2 = 0 \Rightarrow n = 0$

(4)

(v)

9

1,28

①

$$\begin{array}{ccccccc} & -x & -y & z & w & & \\ \hline + & - & + & - & + & & \\ \hline \end{array}$$

~~$\cup (+\infty, +\infty)$~~

19



(-)(1)

$$\begin{array}{r} -1 \quad 2 \\ \hline + \quad + \quad + \\ \hline \end{array}$$

هواره نامترباست

-۲ ۶

+ -

↓

الف)

1,0

$$\text{wavy arrow} = Df = \emptyset$$

الف-٨) $y = \sqrt{\frac{x^2 - x - 4}{x^4 - 13x^2 + 34}} \geq 0 \leadsto \frac{x^2 - x - 4}{x^4 - 13x^2 + 34} \geq 0 \leadsto \frac{(x-3)(x+2)}{(x^2-9)(x^2-4)} \geq 0$

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

	-3	-2	2	3	
	*	*		*	
+	+	-	-	+	+

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

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

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

* نحتاجا مقدرين مفرج!
 * $\Delta < 0$ د معادله صبت وبدون مقدرين

$I \cap II \leadsto D_f = [-1, 3) \cup (3, 4] \subseteq [-1, 4] - \{4\}$