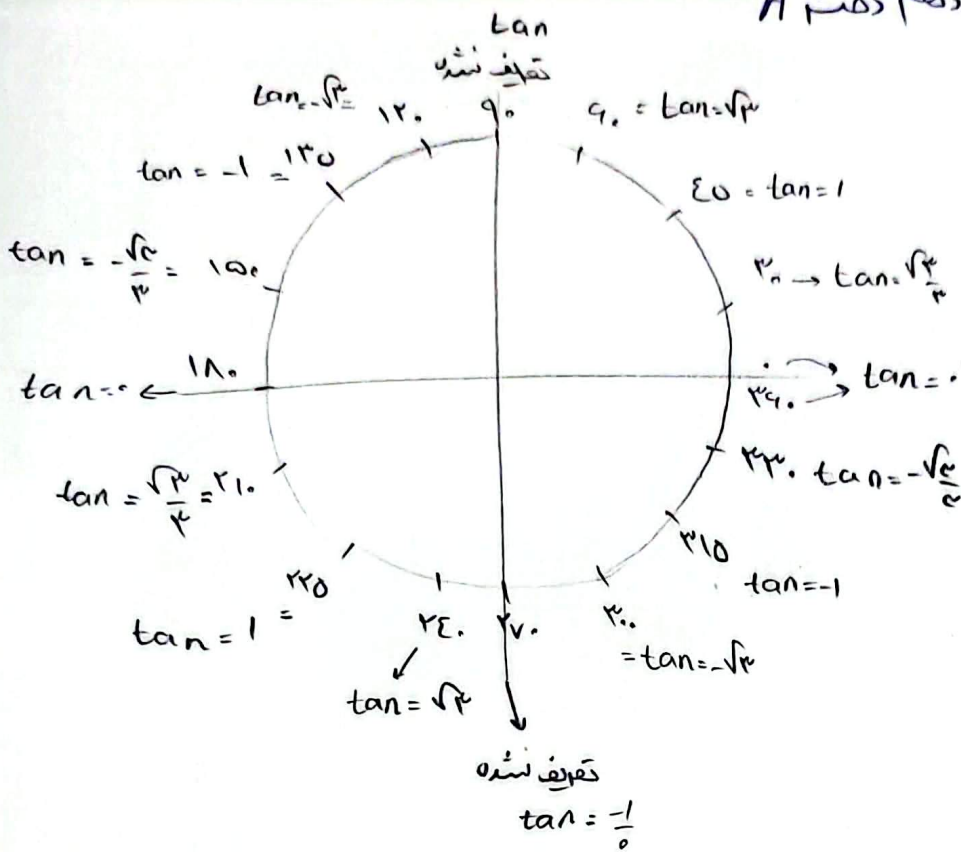




①

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

②

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

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

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

③

$n=a \rightarrow a^2 + \epsilon a = 2a + a + 2$

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

$$\begin{cases} m^2 + \epsilon m & m \geq 1 \\ 2m + 2 & m \leq 1 \end{cases}$$

$a=1 \rightarrow f(1) \rightarrow ①$
در مورد صریح
تقریب
از شرط دو

$a^2 + \epsilon a$
 $\hookrightarrow 1 + \epsilon = ②$

$m=-3 \rightarrow 2(9) - b = a + (2)(-5)$
در مورد صریح

$18 - b = a - 10 \rightarrow a + b = 18 + 10 = 28$

④

٥

الف) $y = \frac{1}{n^2 - 2n}$ $n^2 - 2n \neq 0$
 $\frac{n^2(n-2)}{n} \neq 0$ $D = \mathbb{R} - \{0, 2\}$

$\Rightarrow y = \frac{1}{2n^2 + 8n^2 + 2n + 2} \neq 0$
 $\div 2 \rightarrow n^2 + 4n^2 + n + 1 \neq 0$
 $\begin{array}{c} 1 \quad \times \quad 1 \\ \hline n(n^2+1) + 2(n^2+1) \neq 0 \end{array}$
 $\frac{(n^2+1)(2+n)}{-2} \neq 0$
 $\oplus \text{ or } \neq$
 $D = \mathbb{R} - \{-2\}$

٦

الف) $\sqrt{n^2 - 1} \geq 0 \rightarrow n^2 \geq 1 \rightarrow \begin{matrix} n \geq 1 \\ n \leq -1 \end{matrix}$
 $\sqrt{n-2} \geq 0 \rightarrow n \geq 2$
 $\cap \rightarrow n \geq 2$

ب) $\sqrt{4-2n} \geq 0 \rightarrow 2 \geq n$
 $\sqrt{2n-1} \geq 0 \rightarrow n \geq \frac{1}{2}$
 $\cap \rightarrow \frac{1}{2} \leq n \leq 2$

٧

$y = \sqrt{4n-a} + \sqrt{b-2n} \xrightarrow{n=2} 12-\frac{a}{4} = 0 \quad \frac{b}{4} - 4 = 0$
 $\frac{b}{a} = \frac{4}{12} = \frac{1}{3}$

٨

الف) $y = \sqrt{\frac{n^2 - n - 4}{n^2 - 12n^2 + 34}} = \sqrt{\frac{(\frac{n}{n-2})(\frac{-1}{n+2})}{t^2 - 12t + 34}}$
 $\rightarrow \sqrt{\frac{(n-2)(n+2)}{(t-2)(t-9)}}$ $t = n^2 \rightarrow n = \pm 2, \pm 3$
 $\begin{array}{ccccccc} & -3 & -2 & 2 & 3 & & \\ + & 9 & -4 & 4 & 9 & + & \\ \hline & 9 & -4 & 4 & 9 & & \end{array}$
 $D = (-\infty, -4) \cup (2, 3) \cup (3, +\infty)$
 عتیب من بعد

$$\Rightarrow) \sqrt{\frac{(m^2 - 2m^2 - 4m + 4)}{(m^2 + 2m^2 - 4m - 4)}} \xrightarrow{\text{نقطة } m=1} 1 - 2 - 0 + 4 = 1$$

$$\xrightarrow{\text{نقطة } m=-1} -1 + 1 = 2 - 4 \checkmark$$

$$\frac{m^2 - 2m^2 - 4m + 4}{-m^2 + m^2} \quad \frac{m-1}{2^2 - m - 4} : (m-2)(m+2)$$

$$-2^2 - 4m + 4$$

$$-m^2 + m$$

$$-4m + 4$$

$$-4m + 4$$

$$\frac{m^2 + 2m^2 - 4m - 4}{m^2 + m^2} \quad \frac{m+1}{2^2 + m - 4} : (m+2)(m-2)$$

$$m^2 - 4m - 4$$

$$m^2 + m$$

$$-4m - 4$$

$$-4m - 4$$

$$\Rightarrow \sqrt{\frac{(\overset{-1}{m-1})(\overset{-2}{m-2})(\overset{-1}{m+2})}{(\overset{-1}{m+1})(\overset{-2}{m+2})(\overset{-1}{m-2})}} \geq 0$$

-1	-2	-1	1	2	2
+	-	+	-	+	-

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

$$\textcircled{9} \text{ الف) } y = \sqrt{r[m] - \varepsilon} \geq 0 \rightarrow r[m] \geq \varepsilon$$

$$[m] \geq \varepsilon \quad D = [\varepsilon, +\infty)$$

$$\Rightarrow y = \sqrt{r[m] - 0} \geq 0$$

$$r[m] - 0 \geq 0 \quad [m] \geq 0$$

$$[m] \geq 0 \rightarrow D = [0, +\infty)$$

15

$$\Delta = \xi - \xi \times \xi = -12$$

⊕ 0) $\Delta < 0$

$$\sqrt{\frac{9 + \sqrt{9 - 4 \times 12}}{2 \times 12}} = \frac{1 \pm \sqrt{1 - 4 \times 12}}{2 \times 12}$$

$$\Delta = [-1, +\infty) - \{1\}$$

$$\Delta = [-1, 9] - \{1\}$$

$$\sqrt{[a] - \xi \times \xi} \rightarrow [a] \geq \xi \rightarrow [\xi, +\infty)$$

$$\sqrt{1 - [a] \times \xi} \rightarrow [a] \leq 1 \rightarrow (-\infty, 1]$$

$$\emptyset$$