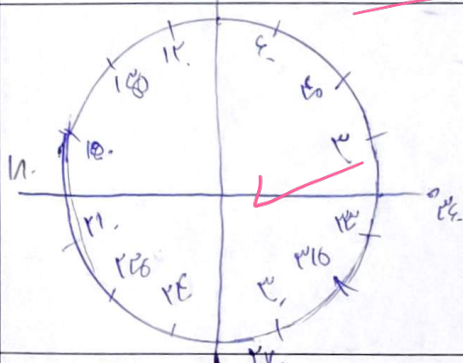


صفحه ها را در پشت بنویس!



تقریب برآورد: $\tan 9^\circ, \tan 27^\circ =$
 $\tan 11^\circ, \tan 24^\circ = 0$
 $\tan 10^\circ, \tan 30^\circ = -\frac{\sqrt{3}}{3}$
 $\tan 50^\circ, \tan 20^\circ = 1$
 $\tan 15^\circ, \tan 35^\circ = 1$
 $\tan 2^\circ, \tan 11^\circ = \frac{\sqrt{3}}{3}$
 $\tan 4^\circ, \tan 24^\circ = \sqrt{3}$
 $\tan 12^\circ, \tan 2^\circ = -\sqrt{3}$

$\sin(\frac{\pi}{4}) + \cos \pi + \tan \frac{3\pi}{4} \Rightarrow \sin + \cos + \tan$
 $-\cos \frac{5\pi}{4} + \sin \frac{3\pi}{4} - \tan \frac{5\pi}{4} \Rightarrow -\cos + \sin - \tan$
 $\cos \frac{3\pi}{4} + \sin \frac{5\pi}{4} - \tan \frac{5\pi}{4} \Rightarrow \cos + \sin - \tan$
 $\cos(\sin \pi) + \sin(\pi \cos \frac{\pi}{4}) \Rightarrow$

همه جواب ها را بدست نیامد روی ...
 صفتی آخر برات کامل نوشت!

$x = a \rightarrow a^2 + a = 1 \quad a^2 + a \geq 1$
 $a^2 + a - 1 = 0$
 $(a+2)(a-1) < 0 \Rightarrow a = 1 \checkmark$

$y = \frac{1}{a^2 - fa^2} \rightarrow a^2 - fa^2 \neq 0 \quad a^2(a-f) \neq 0 \rightarrow a \neq f, a \neq 0$

$y = \frac{1}{fa^2 + fa^2 + fa + f} \rightarrow 2(a^2 + fa + f) \neq 0$
 $D = \mathbb{R} \setminus \{-2\}$
 از سوال ۴ تا ۶ یکی حل است
 جواب سوال ۴ در ۵، ۶ در ۴، ۵ در ۳، ۴ در ۲

$y = \sqrt{a^2 - 1} + \sqrt{a - 2} \rightarrow a^2 - 1 \geq 0 \rightarrow a \geq 1$
 $a - 2 \geq 0 \rightarrow a \geq 2$
 $a \geq 2$

$y = \frac{\sqrt{4 - 3a}}{\sqrt{4a - 4}} \rightarrow 4a - 4 > 0$
 $4a > 4 \Rightarrow a > 1$
 $4 - 3a \geq 0 \Rightarrow a \leq \frac{4}{3}$
 $a \in (\frac{4}{3}, 4]$

$$\begin{aligned} |a+1| &= 2 & a+1 &= 2 \\ |a+1| &= 2 & a+1 &= -2 \\ a &= 1 \end{aligned}$$

$$\begin{aligned} f(a) &= a-2 & 2a^2+b &= a+2a \\ 2(-2)^2+b &= a+2(-2) \\ 11+b &= a-4 \end{aligned}$$

$$\begin{aligned} a+b &= 11+4 \\ a+b &= 15 \end{aligned}$$

$$\begin{aligned} y_2 \sqrt{4a-9} + \sqrt{b-2} &= a-2 \quad \sqrt{12-9} + \sqrt{b-2} = 0 \quad \sqrt{12-9} = 0 \quad a=12 \\ \sqrt{b-2} &= 0 \quad b=2 \end{aligned}$$

$$\frac{b}{a} = \frac{2}{12} = \frac{1}{6}$$

همه درست نیستن علامت نذار!

$$\begin{aligned} y_2 \sqrt{a^2-a-6} &\rightarrow \begin{cases} a^2-12a+36 > 0 & a > 12 \\ (a^2-4)(a^2-9) > 0 & a > 3 \end{cases} \rightarrow \boxed{a > 3} \end{aligned}$$

$$\begin{aligned} a^2-a-6 &\geq 0 & a &\geq 3 \\ (a-3)(a+2) &\geq 0 & a &\geq -2 \end{aligned}$$

$$\begin{aligned} y_2 \sqrt{\frac{x^2-12x^2-0x+6}{x^2+2x^2-0x-4}} &\rightarrow \begin{cases} x^2-12x^2-0x+6 > 0 \\ x^2+2x^2-0x-4 > 0 \end{cases} \rightarrow \begin{cases} (x-1)(x-6)(x+2) > 0 \\ (x+2)(x-2) > 0 \end{cases}$$

$$\begin{aligned} x &\geq 1 & x &\geq 3 \\ x &\geq 3 & x &\geq 2 \\ x &\geq -1 & x &\geq -2 \\ x &\geq 2 & x &\geq -3 \end{aligned}$$

$$y_2 \sqrt{2[a]-5} \rightarrow 2[a]-5 \geq 0 \rightarrow 2[a] \geq 5 \rightarrow [a] \geq 2.5 \rightarrow [2, +\infty)$$

$$\begin{aligned} y_2 \sqrt{2[a]-0} &\rightarrow 2[a]-0 \geq 0 \rightarrow 2[a] \geq 0 \rightarrow [a] \geq 0 \rightarrow [0, +\infty) \end{aligned}$$

$$\begin{aligned} y_2 \sqrt{\frac{a+1}{|a-3|}} + \sqrt{\frac{4-a}{a^2+2a+4}} &\rightarrow \begin{cases} a+1 \neq 0 & (a+2)^2 \neq 0 \\ |a-3| & a \neq 3 \\ a^2+2a+4 & a \neq -2 \end{cases} \end{aligned}$$

$$\begin{aligned} |a+1| &\geq 0 & |a-3| &\geq 0 \\ |a| &\geq 1 & |a| &\leq 3 \end{aligned}$$

$$D: (1 \leq a \leq 3) - \{3\}$$

$$\begin{aligned} y_2 \sqrt{[a]-1} + \sqrt{2-[a]} &\rightarrow \begin{cases} [a]-1 \geq 0 & [a] \geq 1 \\ 2-[a] \geq 0 & 1 \geq [a] \end{cases} \rightarrow [1, 2] \end{aligned}$$

$$\text{الف - ۲)} \quad \sin \frac{\pi}{4} + \cos \pi + 2 \tan \frac{\pi}{4} = \frac{1}{2} + (-1) + 2(-1) = -\frac{1}{2} < -2, 5$$

$$\text{ب - ۲)} \quad -\cos \frac{\Delta \pi}{4} + \sin \frac{\pi}{3} - 3 \sin \frac{\pi}{4} = -(-\frac{\sqrt{2}}{2}) + \frac{\sqrt{3}}{2} - 3(-\frac{\sqrt{2}}{2}) = \frac{4\sqrt{2}}{2}$$

$$\text{ج - ۲)} \quad \cos \frac{\pi}{3} + 3 \cos \frac{\pi}{3} - 2 \tan \frac{\Delta \pi}{4} = -\frac{\sqrt{3}}{2} + 3(\frac{\sqrt{3}}{2}) - 2(-\frac{\sqrt{2}}{2}) = \frac{4\sqrt{3}}{2}$$

$$\text{د - ۲)} \quad \cos(\sin \pi) + \sin(\pi \cos \frac{\pi}{4}) = \cos(0) + \sin(\frac{\pi}{4}) = 1 + 1 = 2$$

$$\text{الف - ۸)} \quad y = \sqrt{\frac{n^2 - n - 4}{n^4 - 13n^2 + 36}} \sim \frac{n^2 - n - 4}{n^4 - 13n^2 + 36} \geq 0 \sim \frac{(n-3)(n+2)}{(n^2-9)(n^2-4)} \geq 0$$

$$\frac{(n-3)(n+2)}{(n-3)(n+3)(n-2)(n+2)} \geq 0 \sim \frac{-3 \quad -2 \quad 2 \quad 3}{+ \quad - \quad - \quad +}$$

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

$$\text{ب - ۸)} \quad y = \sqrt{\frac{n^3 - 2n^2 - 5n + 4}{n^3 + 2n^2 - 5n - 4}} \sim \frac{n^3 - 2n^2 - 5n + 4}{n^3 + 2n^2 - 5n - 4} \geq 0 \sim$$

← محورهای منفرجه به (n-1)
→ محورهای مثبت از زوج و فرد برابر نیست به (n+1)

$$\frac{(n-1)(n^2 - n - 4)}{(n+1)(n^2 + n - 4)} \geq 0 \sim \frac{(n-1)(n-3)(n+2)}{(n+1)(n+3)(n-2)} \geq 0 \sim \frac{-3 \quad -2 \quad -1 \quad 1 \quad 2 \quad 3}{+ \quad - \quad + \quad - \quad + \quad -}$$

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