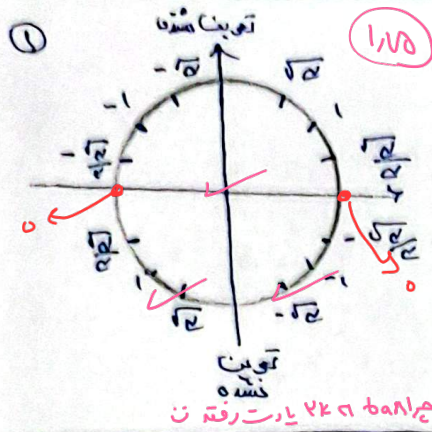


19/1/56 آخرین فقط به شاهی به
دایره منتهای صفا آخر که کشیدم
پنن



1) $\sin \frac{\pi}{4} + \cos \pi + \tan \frac{3\pi}{4} =$
 $\Rightarrow \frac{1}{\sqrt{2}} + (-1) + (-1) = \frac{1-2-2}{\sqrt{2}} = \frac{-3}{\sqrt{2}}$
 ب) $-\cos \frac{\pi}{4} + \sin \frac{\pi}{4} - \sin \frac{3\pi}{4}$
 $\Rightarrow -\frac{\sqrt{2}}{2} + \frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2} = -\frac{\sqrt{2}}{2}$
 2) $\cot \frac{\pi}{4} + \tan \frac{3\pi}{4} - \tan \frac{\pi}{4} = 1 - 1 - 1 = -1$
 3) $\cos(\sin \pi) + \sin(\pi \cos \frac{\pi}{4}) = 1 + 1 = 2$

3) $\frac{1}{x} \rightarrow (x)^2 + \epsilon(x) = x^2 + x + x - 2x^2 + 2x = 4x + x \rightarrow x^2 + x - 2 = 0 \rightarrow (x+2)(x-1) = 0$
 $\rightarrow x = -2$
 $\rightarrow a = 1$ $f(1) = (1)^2 + \epsilon(1) = 2$ $f(1) = 2$

4) $f(x) = \begin{cases} x^2 - 6 & |x+1| < 1 \\ x + 2x - 3 & |x+1| \geq 1 \end{cases}$
 $\begin{cases} x = -3 \\ x = -1 \end{cases} \Rightarrow \begin{cases} x^2 - 6 = a + x(-3) \\ x + 2x - 3 = a + x(-1) \end{cases}$
 $a + b = 4$

5) الف) $\frac{1}{x} \rightarrow x \neq 0 \Rightarrow x^3 - 2x^2 \neq 0 \Rightarrow x^2(x-2) \neq 0$
 $\Rightarrow x \neq 2$
 ب) $\frac{1}{x} \rightarrow x \neq 0 \Rightarrow x(x^2 + 2x^2 + x + 2) = x(x^2(x+2) + x + 2) = x((x+2)(x^2+1)) \neq 0$
 $\Rightarrow x \neq -2$

6) الف) $y = \sqrt{x^2 - 1} + \sqrt{x - 2}$
 $\begin{cases} x - 1 \geq 0 \\ x - 2 \geq 0 \end{cases} \Rightarrow \begin{cases} x \geq 1 \\ x \geq 2 \end{cases} \Rightarrow x \geq 2$

ب) $\frac{\sqrt{4-3x}}{\sqrt{4x-2}} \rightarrow \begin{cases} 4-3x \geq 0 \rightarrow x \leq \frac{4}{3} \\ 4x-2 \geq 0 \rightarrow x \geq \frac{1}{2} \end{cases} \Rightarrow \mathcal{D}_f = [\frac{1}{2}, \frac{4}{3}]$

7) $4(x) - a = 0 \rightarrow a = 4$ $b - 3(x) = 0 \rightarrow b = 4$
 $\frac{b}{a} = \frac{4}{4} = 1$

جواب سوالیات معادلات و معادلات
معادله و جوابات از جدول
به بد / قبل مقبض خوانده چیدم پس می توان نتیجه گرفت وقتی اعداد در دامنه اند عدد است ، عدد در اعدادی که تعداد مقبض معادله

1) الف) $\frac{x^2 - x - 4}{x^2 - 13x + 44} \geq 0 \rightarrow \frac{(x-4)(x+1)}{(x^2-4)(x^2-2)} = \frac{(x-4)(x+1)}{(x-2)(x+2)(x+1)(x-1)}$
 $\frac{-3}{+1} \frac{-2}{-1} \frac{1}{-1} \frac{4}{+1} \rightarrow \mathcal{D}_f = (-\infty, -2) \cup (2, 4) \cup [4, +\infty)$

ب) $\frac{x^3 - 2x^2 - 5x + 4}{x^2 + 2x^2 - 6x - 4} \geq 0 \rightarrow \frac{x^3 - 2x^2 - 5x + 4}{x^2 + 2x^2 - 6x - 4} \geq 0$
 $\frac{x^3 - 2x^2 - 5x + 4}{x^2 + 2x^2 - 6x - 4} \geq 0 \rightarrow \frac{x^3 - 2x^2 - 5x + 4}{x^2 + 2x^2 - 6x - 4} \geq 0$

II $\frac{x^3 - 2x^2 - 5x + 4}{x^2 + 2x^2 - 6x - 4} \geq 0$
 $\frac{x^3 - 2x^2 - 5x + 4}{x^2 + 2x^2 - 6x - 4} \geq 0 \rightarrow \frac{x^3 - 2x^2 - 5x + 4}{x^2 + 2x^2 - 6x - 4} \geq 0$
 $\mathcal{D}_f = (-\infty, -2) \cup [-2, 0] \cup [2, 4] \cup [4, +\infty)$

① الف) $y = \sqrt{x^2 - 2}$

$x^2 - 2 \geq 0 \rightarrow x \geq \sqrt{2}$

Ⓟ

ب) $y = \sqrt{x^2 - 6}$

$x^2 - 6 \geq 0 \rightarrow x \geq \sqrt{6}$

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

I $\frac{x+1}{x-1} \geq 0 \rightarrow x \in (-1, +\infty) - \{1\}$

I ∩ II $\rightarrow x \in (-1, 1) \cup [2, +\infty)$

Ⓟ

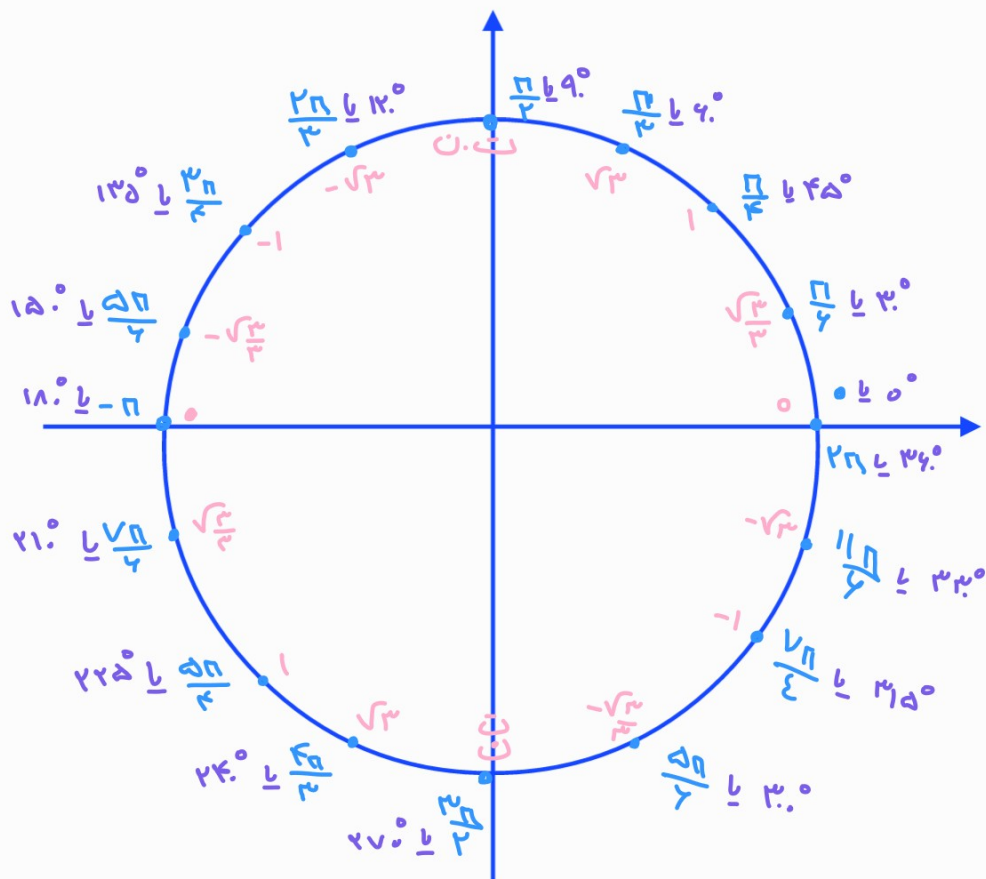
II $\frac{x-1}{x^2+x+2} \geq 0 \rightarrow x \in (-\infty, 1]$

ج) $y = \sqrt{x^2 - 2} + \sqrt{4 - x^2} \rightarrow$

$x^2 \geq 2 \rightarrow x \geq \sqrt{2}$

$x^2 \leq 4 \rightarrow x \leq 2$

$\rightarrow x \in [\sqrt{2}, 2]$



$\tan \leftarrow$ ■
 زاویه بر حسب رادیان $\leftarrow$ ■
 زاویه بر حسب درجه $\leftarrow$ ■

$$\tan n = \frac{\sin n}{\cos n}$$