

۱۷ صفحه های که نوشته
بابت مطالعه کن

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آبیت رسی - کتاب شماره ۲۰

$$\sin \frac{\pi}{4} + c \cdot \sin \frac{\pi}{4} + 2 \tan \frac{\pi}{4} = \frac{1}{\sqrt{2}} + (-1) + (-2) = \frac{-9+1}{\sqrt{2}} = -\frac{8}{\sqrt{2}}$$

$$c \cdot \sin \frac{\pi}{4} + \sin \frac{\pi}{4} - 2 \sin \frac{\pi}{4} = \frac{1}{\sqrt{2}} + \frac{1}{\sqrt{2}} - \frac{2}{\sqrt{2}} = \frac{1+1-2}{\sqrt{2}} = 0$$

$$\cot \frac{\pi}{4} + \frac{1}{\sqrt{2}} + \frac{1}{\sqrt{2}} - 2 \tan \frac{\pi}{4} = 1 + \frac{2}{\sqrt{2}} - 2 = \frac{2}{\sqrt{2}} - 1 = \frac{2-\sqrt{2}}{\sqrt{2}}$$

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

$$f(x) = x^2 + 2x \quad x \geq a \rightarrow a^2 + 2a = 2a + a + 2 = 3a + 2$$

$$f(1) = 3 \quad 1 + 2 = 3$$

$$g(x) = \begin{cases} 2x^2 - b \\ a + 2x \end{cases} \quad |x+1| \geq 2$$

$$x+1 \geq 2 \rightarrow x \geq 1$$

$$x+1 \leq -2 \rightarrow x \leq -3$$

$$y = \frac{1}{x^3 - 4x^2}$$

$$x^3 - 4x^2 = 0$$

$$x(x-4) = 0$$

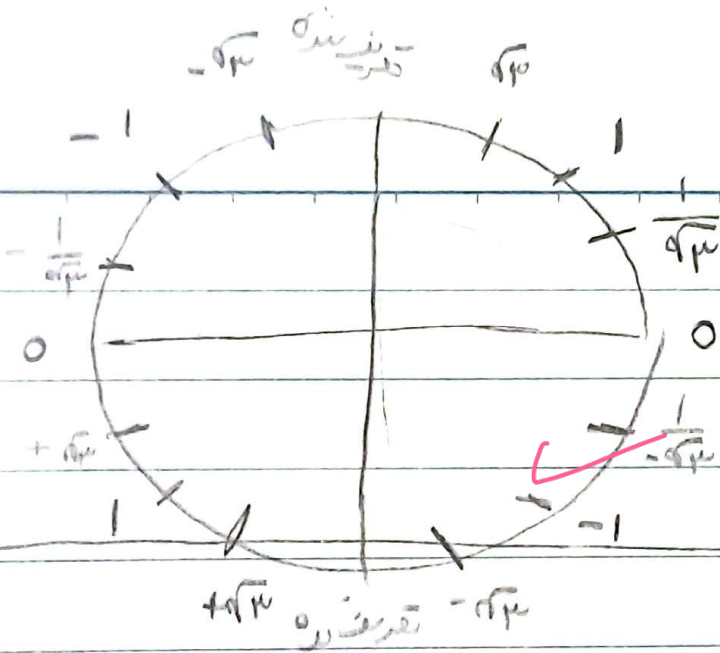
$$x=0$$

$$x-4=0 \rightarrow x=4$$

آب رسی



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$$y = \sqrt{x^2 - 1} + \sqrt{x - 2} \quad (-\infty, -1] \cup (1, +\infty)$$

$x \geq 2$ است

$$y = \frac{\sqrt{4 - 3x}}{\sqrt{4x - 2}}$$

$4 - 3x \geq 0 \Rightarrow x \leq \frac{4}{3}$
 $4x - 2 > 0 \Rightarrow x > \frac{1}{2}$
 $\frac{1}{2} < x \leq \frac{4}{3}$

$$y = \sqrt{4x - a} + \sqrt{b - 3x}$$

محدوده تعریف شده است

$$\sqrt{4x - a} + \sqrt{b - 3x} \quad b - 3x \geq 0 \Rightarrow b \geq 3x$$

محل $\frac{b}{a}$

$$\sqrt{4x - a} \geq 0 \Rightarrow 4x \geq a \Rightarrow x \geq \frac{a}{4}$$

$$x^2 - x - 4 = (x - 3)(x + 4) = 0 \Rightarrow x = -2 \text{ or } x = 3$$

$$\begin{aligned} & x^2 - x - 4 \\ & x^2 - 13x^2 + 34 \end{aligned}$$

$$x^2 - 13x^2 + 34 = (x^2 - 4)(x^2 - 9) = 0 \Rightarrow x^2 = 4 \text{ or } x^2 = 9$$

$$(-2, -1) \cup (1, 2) \cup (3, 4)$$

$$(-2, -1) \cup (1, 2) \cup (3, 4)$$

باید همه را به ترتیب بنویسید

$$y = \sqrt{2[x] - 1}$$

$$y = \sqrt{2[x] - 5}$$

$$2[x] - 1 \geq 0 \Rightarrow [x] \geq \frac{1}{2}$$

$$2[x] - 5 \geq 0 \Rightarrow [x] \geq \frac{5}{2}$$

$$[x] \geq \frac{5}{2} \Rightarrow [x] \in (\frac{5}{2}, +\infty)$$

$$[x] \geq \frac{5}{2} \Rightarrow [x] \in (\frac{5}{2}, +\infty)$$

$$y = \sqrt{[x] - 1} + \sqrt{2 - [x]}$$

$$y = \sqrt{\frac{x+1}{|x-3|}} + \sqrt{\frac{4-x}{x^2+2x+1}}$$

$$\begin{aligned} [x] \geq 0 & \Rightarrow \begin{cases} 2 - [x] \geq 0 \\ [x] \leq 2 \end{cases} \\ [x] \geq 1 & \Rightarrow \begin{cases} [x] \leq 2 \end{cases} \end{aligned}$$

$$\frac{x+1}{|x-3|} \geq 0 \Rightarrow \begin{cases} x+1 \geq 0 \\ x-3 < 0 \end{cases} \Rightarrow \begin{cases} x \geq -1 \\ x < 3 \end{cases}$$

$$[1, +\infty) \cap (-\infty, 3)$$

$$(-1, 3)$$

$$ج-۲) C.t \frac{r_1}{r} + r C.t \frac{r_2}{r} - r \tan \frac{\alpha}{4} = -\sqrt{\frac{r}{r}} + r(\sqrt{\frac{r}{r}}) - r(-\sqrt{\frac{r}{r}}) = \frac{r\sqrt{r}}{r}$$

$$ب-۵) y = \frac{1}{r_n^3 + r n^2 + r n + r} \leadsto r(n^3 + n^2 + n + r) = 0$$

$$r[(n^3 + n) + (n^2 + r)] = 0 \leadsto r[n(n^2 + 1) + r(n^2 + 1)] = 0$$

$$= r(n^2 + 1)(n + r) = 0 \leadsto D_f = \mathbb{R} - \{-r\}$$

سهمین min دار
در نقطه r است

$$الف-۸) y = \sqrt{\frac{n^2 - n - 4}{n^4 - 13n^2 + 34}} \leadsto \frac{n^2 - n - 4}{n^4 - 13n^2 + 34} \geq 0 \leadsto \frac{(n-3)(n+2)}{(n^2-9)(n^2-4)} \geq 0$$

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

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

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

← محضرایب منفی بنویس بر (n-1)
محضرایب در آن زوج و فرد برابر بنویس بر (n+1)

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

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

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

نحتاج مخرج! $\left\{ \begin{array}{l} \frac{n+1}{|n-4|} \geq 0 \rightarrow n \geq -1, n \neq 4 \quad I \\ \frac{4-n}{n^2+2n+2} \geq 0 \rightarrow n \leq 4 \quad II \end{array} \right.$

نحتاج $\Delta < 0$ ، محاوره مثبت وبدون مفردات

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