

خیزده در راه حل هایی که نوشتیم را بدقت مطالعه کن و آنه باز هم اشکال داری تا ایم ریاض اشکال بگیر

۱۳۷۵ مرتب و خوانا بنویس من اصلا نمی توانم راه حل هات را بفهمم

بنا بر این اگر هفتاد و پنج مرتب ترش بنویس و به نظر می رسد

دلیف شما ۳

آنیارسی

$$y_2 = \frac{x^3 + 3}{2x^3 + 2x^2 - 18x + 3} \rightarrow 2x^3 + 2x^2 - 18x + 3 \neq 0$$

$x+1, x+3, x=1$
 $R = \{ \frac{1}{2}, 1, 3 \}$ (1)

(این هم مثل الف بود) بلاستیم

$$y_2 = \frac{x^3 + 3}{2x^3 + 9x^2 + 10x + 3} \neq 0$$

$$y_2 = \frac{x^3 + 3}{x^3 - 2x^2 + 2x - 1} \rightarrow (x-1)(x^2 - x + 1)$$

$R = \{1\}$ (2)

$$y_2 = \sqrt{\frac{x^3 + 3}{x^3 - 2x^2 + 2x - 1}} \geq 0 \rightarrow (x-1)(x^2 - x + 1)$$

$x \geq 1$ (3)

$$y_2 = \frac{x^3 - \omega x - 1}{x^2 - \omega x - 1} = 2x + \omega = 0$$

$x^2 - \omega x - 1 = 2x + \omega \rightarrow x^2 - 2x - \omega - 1 = 0$
 $x^2 + \omega x - \omega - 2x + \omega = 0$
 $x^2 + \omega x = 0$
 $x(x + \omega) = 0$
 $x = 0$ or $x = -\omega$
 $x = -\omega$ (4)

$$y_2 = \sqrt{[-x] - 2} \rightarrow [-x] - 2 \geq 0 \rightarrow [-x] \geq 2$$

$[-1 \times x] \geq 2 \rightarrow -x \geq 2 \rightarrow x \leq -2$ (5)

$$y_2 = \frac{\omega x^2 + 4}{[x]^2 - 2[x] - 3}$$

$[x]^2 - 2[x] - 3 \neq 0$
 $([x] - 3)([x] + 1) \neq 0$
 $[x] \neq 3, -1$
 $[x] = -1$ (6)

$$2[x] \geq 3$$

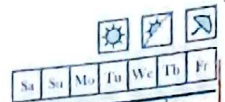
$R = \{ \frac{3}{2}, 2 \}$ (7)

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۵- آمار سی

$$\sqrt{\left(x - \frac{1}{x}\right) + \left(x + \frac{1}{x}\right)} \geq 0$$

$$\left(x - \frac{1}{x}\right) + \left(x + \frac{1}{x}\right) \geq 0 \rightarrow (x > 1)$$

$$\sqrt{\left(x - \frac{1}{x}\right) + \left(\frac{1}{x} - x\right)} \geq 0$$

$$a = x - \frac{1}{x} \rightarrow [a] + [-a] \geq 0 \quad (-1, 1] \text{ و } [0, 1]$$

$$\cos t + \frac{1}{\cos t} \Rightarrow 2k\pi, 2k\pi + \pi \quad \text{و} \quad \tan t + \frac{1}{\tan t} \Rightarrow 2k\pi + \frac{\pi}{2}, 2k\pi - \frac{\pi}{2}$$

$$y = \sqrt{1 - \cos^2 x}$$

$$1 - \cos^2 x \geq 0$$

$$\sin^2 x \leq \frac{1}{4} \rightarrow |\sin x| \leq \frac{1}{2}$$

$$-\frac{\pi}{6} \leq x \leq \frac{\pi}{6} \quad \text{و} \quad \left[2k\pi - \frac{\pi}{2}, 2k\pi + \frac{\pi}{2}\right] \cup \left[2k\pi + \frac{3\pi}{2}, 2k\pi - \frac{\pi}{2}\right]$$

$$y = \sqrt{2 \sin x - 1} \geq 0 \quad 2 \sin x \geq 1 \rightarrow \sin x \geq \frac{1}{2} \Rightarrow \left[2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6}\right]$$

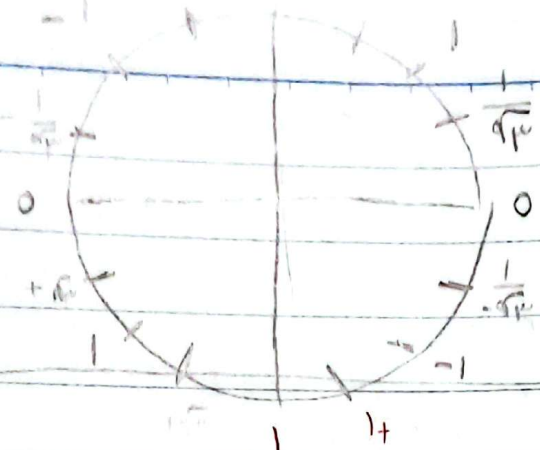
$$y = \sqrt{1 - 2 \cos x} \geq 0 \quad \cos x \leq \frac{1}{2} \Rightarrow \left[\frac{2\pi}{3} + 2k\pi, \frac{4\pi}{3} + 2k\pi\right]$$

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آب رسی

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$\tan^{-1}$

$$\frac{1}{x} = \frac{2}{6\pi} = \frac{1}{3\pi}$$

آب رسی

$[-1, 1]$

$$x^2 + 3x + 1 \leq 1$$

$$+1 - 1 +$$

$$y = \arcsin(x^2 + 3x + 1) \rightarrow$$

$$x^2 + 3x \leq 0$$

$$x(x + 3) \leq 0$$

(1, 1)

$$x^2 + 3x + 1 \geq -1$$

$$x^2 + 3x + 2 \geq 0 \rightarrow (x + 2)(x + 1) \geq 0$$

$$c.s.y = \sqrt{a - 2x} \rightarrow (-\infty, 2] \cup [9, +\infty) \quad \vee \quad [-3, 0] \Rightarrow [-3, 0] - (-2, -1)$$

$$[-1, 1] \quad \sqrt{a - 2x} \geq 0 \rightarrow a - 2x \geq 0 \rightarrow x \leq \frac{a}{2} \rightarrow [-1, 1]$$

$$y = \log_p (1 - \log_p x) \quad x > 0 \quad 1 - \log_p x > 0$$

Df: (0, 1)

(1, 2)

$$y = \log_p (1 - \log_p \frac{1}{x}) \quad x > 0 \quad 1 - \log_p \frac{1}{x} > 0$$

$$\log_p \frac{1}{x} < 1 \rightarrow x < \frac{1}{p}$$

میت عرض مرشد!

$$y = \sqrt{4x - x^2} \quad -1 \geq \frac{4x - x^2}{4} \geq 1 \rightarrow -x^2 + 4x \geq 4 \rightarrow -x^2 + 4x - 4 \geq 0 \rightarrow x^2 - 4x + 4 \leq 0 \rightarrow (x - 2)^2 \leq 0 \rightarrow x = 2$$

$$y = \left(\frac{3x + \omega}{2x + 5} \right) ! \quad k \in W$$

(1, 8)

$$k \left(\frac{3x + \omega}{2x + 5} \right) \in W \rightarrow x = \frac{4\omega - \omega}{2\omega - 3}$$

Df: نوشتی!

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ج. ب - ۱

مجموع ضرایب توان های زوج با ضرایب توان های فرد برابر است پس عبارت بر $n+1$ بخش پذیر است.

$$\begin{array}{r|l} 2n^3 + 9n^2 + 10n + 3 & n+1 \\ -2n^3 + 2n^2 & \\ \hline \end{array}$$

$$\begin{array}{r} 7n^2 + 10n + 3 \\ -7n^2 + 7n \\ \hline \end{array}$$

$$\rightarrow (n+1)(2n^2 + 7n + 3)$$

$$\begin{array}{r} 3n + 3 \\ -3n + 3 \\ \hline \end{array}$$

$$\begin{cases} n+1=0 \rightarrow n=-1 \end{cases}$$

$$\begin{cases} 2n^2 + 7n + 3 = 0 \rightarrow n = \frac{-7 \pm \sqrt{49-24}}{4} \rightarrow n = -3, -\frac{1}{2} \end{cases}$$

$$D_f = \mathbb{R} - \left\{ -3, -1, -\frac{1}{2} \right\}$$

ریشه های عبارت را بدست می آوریم

۳- کس عبارت مخرج را دستکاری می کنیم تا کی ساده تر شود...

$$(n^2 - 2n + 1) - 5/|n-1| + 4 \rightarrow (n-1)^2 - 5/|n-1| + 4 \xrightarrow{|n-1|=t} t^2 - 5t + 4$$

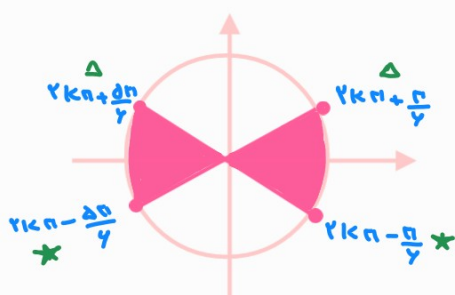
$$(t-1)(t-4) = 0 \rightarrow t=1, t=4$$

$$\rightarrow D_f = \mathbb{R} - \{-3, 0, 2, 5\}$$

$$|n-1|=1 \rightarrow n=2, 0 \quad |n-1|=4 \rightarrow n=5, -3$$

۴- الف) $[-n] - 2 \geq 0 \rightarrow [-n] \geq 2 \rightarrow -n \geq 2 \rightarrow n \leq -2 \rightarrow D_f = (-\infty, -2]$

ب - ۹) $1 - 4 \sin^2 n \geq 0 \rightarrow 4 \sin^2 n \leq 1 \rightarrow \sin^2 n \leq \frac{1}{4} \rightarrow -\frac{1}{2} \leq \sin n \leq \frac{1}{2}$



$$\rightarrow D_f = \left[k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4} \right]$$

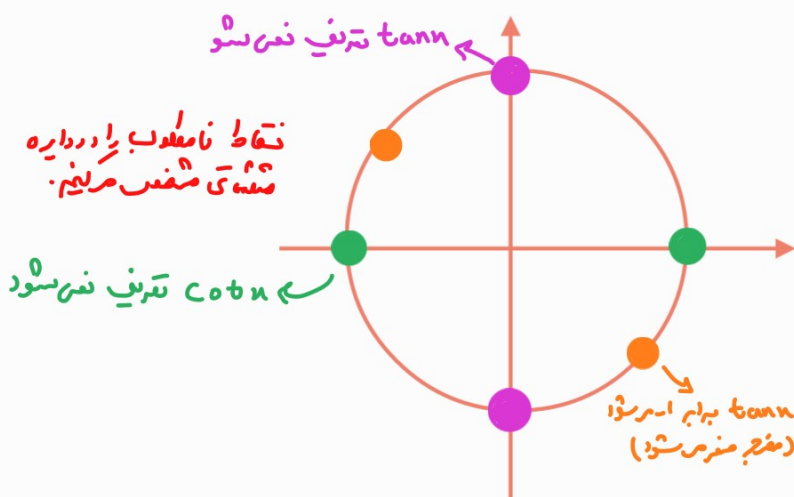
الف - 4) $y = \frac{\cot x + 1}{\tan x + 1}$

$x \neq k\pi + \frac{\pi}{2}$

$x \neq k\pi + \frac{\pi}{4} \cup x \neq k\pi$

$\rightarrow x \neq \frac{k\pi}{4}$

$\rightarrow D_f = \mathbb{R} - \left\{ \frac{k\pi}{4}, k\pi + \frac{\pi}{4} \right\}$



الف - 8) $-1 \leq x^2 + \frac{9}{x} + 1 \leq 1 \rightarrow -1 \leq x^2 + \frac{9}{x} + \frac{4}{x} - \frac{5}{x} \leq 1$

$\frac{1}{x} \leq x^2 + \frac{9}{x} + \frac{4}{x} \leq \frac{4}{x} \rightarrow \frac{1}{x} \leq \left(x + \frac{4}{x}\right)^2 \leq \frac{4}{x}$

$\int \left(x + \frac{4}{x}\right)^2 \leq \frac{4}{x} \rightarrow -\frac{4}{x} \leq x + \frac{4}{x} \leq \frac{4}{x} \rightarrow -4 \leq x \leq 4 \quad I$

$\int \left(x + \frac{4}{x}\right)^2 \geq \frac{1}{x} \rightarrow x + \frac{4}{x} \geq \frac{1}{x} \rightarrow x \geq -1 \leq x + \frac{4}{x} \leq -\frac{1}{x} \rightarrow x \leq -4 \quad II$

$I \cap II \rightarrow D_f = [-4, -1] \cup [1, 4]$

ب - 8) $\sqrt{5-2x} \rightarrow 5-2x \geq 0 \rightarrow x \leq \frac{5}{2}$

$\rightarrow D_f = \left[2, \frac{5}{2}\right]$

$-1 \leq \sqrt{5-2x} \leq 1 \rightarrow 5-2x \leq 1 \rightarrow -2x \leq -4 \rightarrow x \geq 2$

همواره برقرار است ✓

الف - 9) $y = \log_2(1 - \log_2^n)$ $\rightarrow \log_2^n \rightarrow n > 0$

$\rightarrow 1 - \log_2^n > 0 \rightarrow \log_2^n < 1 \rightarrow n < 2$

$D_f = (0, 2)$

9 - ب) $y = \log_r (1 - \log^{\frac{n}{r}} \frac{1}{r}) \rightarrow \log^{\frac{n}{r}} \frac{1}{r} \rightarrow n.$

$\hookrightarrow 1 - \log^{\frac{n}{r}} \frac{1}{r} > 0 \rightarrow \log^{\frac{n}{r}} \frac{1}{r} < 1$ ^{مناسب (أو 1)} $\rightarrow n > \frac{1}{r}$

$Df = (\frac{1}{r}, +\infty)$

1. - الف) $\frac{r_{n-n^2}}{r} - 1 \geq 0 \rightarrow \frac{r_{n-n^2}}{r} \geq \frac{r^3}{r} \rightarrow r_{n-n^2} \geq r^3 \rightarrow$

$n^2 - 2n + 3 \leq 0 \rightarrow (n-1)(n-3) \leq 0.$ $\frac{1}{+} \frac{3}{-} \rightarrow Df = [1, 3]$

1. - ب) $\frac{w_{n+\omega}}{r_{n+\omega}} \in w \rightarrow n \in -\frac{rw-\omega}{rw-r} \rightarrow n \in \frac{\omega-rw}{rw-r}$

$Df = \{n \mid n = \frac{-rk+\omega}{rk-r}, k \in w\}$