

نام و نام خانوادگی: محمد حسین شریانی
 پاسخنامه تشریحی تکلیف شماره ۲ کلاس یازدهم سیر A

۱۹ آذر

الف) $y = \frac{x+3}{2x^2+3x^2-11x+3} \rightarrow \neq 0$ جمع توان ها زوج و فرد را است

$$2x^2+3x^2-11x+3 \quad | \quad x+3 \rightarrow -1$$

$$2x^2+3x^2 \quad | \quad 2x^2+3x^2$$

$$-11x+3 \quad | \quad -11x+33$$

$$-30 \quad | \quad -30$$

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

ب) $y = \frac{x+3}{2x^2+3x^2-11x+3} \rightarrow \neq 0$

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الف) $y = \frac{x+3}{x^2-2x+2x-1} \rightarrow$ قیاس منفرجه

$$x^2-2x+2x-1 \quad | \quad x-1$$

$$x^2-2x \quad | \quad x^2-2x$$

$$-1 \quad | \quad -1$$

$$D_f = R - \{1\}$$

ب) $y = \frac{x+3}{x^2-2x+2x-1} \rightarrow$

$$x^2-2x+2x-1 \quad | \quad x-1$$

$$x^2-2x \quad | \quad x^2-2x$$

$$-1 \quad | \quad -1$$

$$D_f = R - \{1\}$$

$x^2-5x+6 \geq 0$

$$x^2-5x+6 = (x-2)(x-3) \geq 0$$

الف) $x < 2 \Rightarrow D_f = R - \{0, 5\}$

ب) $x > 3 \Rightarrow D_f = R - \{0, 5\}$

ج) $2 < x < 3 \Rightarrow D_f = R - \{0, 5\}$

الف) $y = \sqrt{-x-2}$

$$-x-2 \geq 0 \Rightarrow -x \geq 2 \Rightarrow x \leq -2$$

ب) $D_f = (-\infty, -2]$

الف) $y = \frac{5x^2+4}{[x]^2-2[x]-3}$

$$[x]^2-2[x]-3 = (x-3)(x+1) = 0$$

ب) $D_f = R - \{ -1, 3 \}$

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

ب) $D_f = [\frac{1}{2}, +\infty)$

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

ب) $D_f = \{x \mid x = n + \frac{1}{2}, n \in \mathbb{Z}\}$

$$y = \frac{\cot x + 1}{\tan x + 1} \quad \frac{\cos x + 1}{\sin x + 1} \Rightarrow \cos x \neq 0, \sin x \neq 0, \tan x \neq -1$$

$$D_f = \mathbb{R} - \{k\pi, k\pi + \frac{\pi}{2}, k\pi - \frac{\pi}{2}\}$$

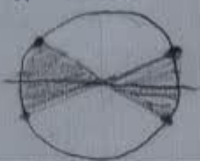


(الف)

$$y = \sqrt{1 - \epsilon \sin^2 x} \Rightarrow 1 - \epsilon \sin^2 x \geq 0 \Rightarrow -\epsilon \sin^2 x \geq -1 \Rightarrow \epsilon \sin^2 x \leq 1$$

$$\Rightarrow \sin^2 x \leq \frac{1}{\epsilon} = \frac{1}{4} \Rightarrow \frac{1}{2} \leq \sin x \leq \frac{1}{2} \Rightarrow [k\pi + \frac{\pi}{6}, k\pi + \frac{5\pi}{6}] = D_f$$

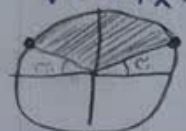
بنابراین بازه از اول بازه کمتر باشد



(ب)

1/5

$$y = \sqrt{5 \sin x - 1} \Rightarrow 5 \sin x - 1 \geq 0 \Rightarrow 5 \sin x \geq 1 \Rightarrow \sin x \geq \frac{1}{5}$$

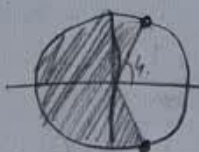


$$\Rightarrow D_f = [k\pi + \arcsin \frac{1}{5}, k\pi + \pi - \arcsin \frac{1}{5}]$$

(الف)

$$y = \sqrt{1 - 5 \cos x} \Rightarrow 1 - 5 \cos x \geq 0 \Rightarrow -5 \cos x \geq -1 \Rightarrow 5 \cos x \leq 1$$

$$\Rightarrow \cos x \leq \frac{1}{5} \Rightarrow D_f = [k\pi + \arccos \frac{1}{5}, k\pi + 2\pi - \arccos \frac{1}{5}]$$



(ب)

$$y = \arcsin(2^x + 2^{x+1}) \Rightarrow -1 \leq 2^x + 2^{x+1} \leq 1$$

$$\Rightarrow 2^x + 2^{x+1} \geq -1 \Rightarrow 2^x + 2^{x+1} + 1 \geq 0 \Rightarrow (2^x + 1)^2 \geq 0$$

$$\Rightarrow 2^x + 2^{x+1} \leq 1 \Rightarrow 2^x + 2^{x+1} \leq 0 \Rightarrow 2^x(1 + 2) \leq 0 \Rightarrow 2^x \leq 0$$

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

(الف)

$$\cos y = \sqrt{0 - 2x} \Rightarrow 0 \leq 0 - 2x \leq 1$$

زیر رادیکال همیشه مثبت

$$0 - 2x \geq 0 \Rightarrow -2x \geq 0 \Rightarrow 2x \leq 0 \Rightarrow x \leq 0$$

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

$$\Rightarrow D_f = [-\frac{1}{2}, 0]$$

(ب)

$$y = (\log_2(1 - \log_2^n)) \Rightarrow 1 - \log_2^n > 0 \Rightarrow \log_2^n < 1 \Rightarrow \frac{1}{2} = \frac{1}{2} \Rightarrow 0 < x < \frac{1}{2}$$

$$D_f = (0, \frac{1}{2})$$

(الف)

1/2

$$y = (\log_2(1 - \log_2^n)) \Rightarrow 1 - \log_2^n > 0 \Rightarrow \log_2^n < 1 \Rightarrow \frac{1}{2} = \frac{1}{2} \Rightarrow 0 < x < \frac{1}{2}$$

$$D_f = (0, \frac{1}{2}) \quad \log_2^n < 1 \Rightarrow x < \frac{1}{2} \Rightarrow D_f = (\frac{1}{2}, +\infty)$$

چون متغیرها را انت جهت نامعادله تغییر کردند

(ب)

$$y = \sqrt{2^x - 2^x} - 1 \Rightarrow 2^x - 2^x = a \Rightarrow 2^x - 1 \geq 0 \Rightarrow 2^x \geq 1 \Rightarrow 2^x \geq 2^0$$

$$\Rightarrow a \geq 0 \Rightarrow 2^x - 2^x \geq 0 \Rightarrow -2^x + 2^{x+1} \geq 0 \Rightarrow 2^x - 2^{x+1} \leq 0$$

$$\Rightarrow (2^x - 2^{x+1}) \leq 0 \Rightarrow 2^x(1 - 2) \leq 0 \Rightarrow 2^x \geq 0$$

$$D_f = [1, 2]$$

(الف)

1

$$y = \left(\frac{2^x + 0}{2^x + 1} \right)! \Rightarrow \frac{2^x + 0}{2^x + 1} \geq 0 \Rightarrow \frac{2^x}{2^x + 1} \geq 0$$

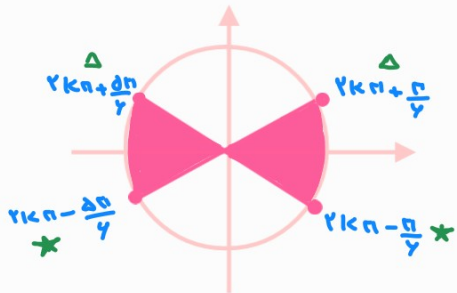
$$D_f = (-\infty, -2) \cup [-\frac{0}{2}, +\infty)$$

(ب)

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الف - ٤) $[-n] - 2 \geq 0 \rightarrow [-n] \geq 2 \rightarrow -n \geq 2 \rightarrow n \leq -2 \rightarrow D_f = (-\infty, -2]$

ب - ٤) $1 - r \sin^2 n \geq 0 \rightarrow r \sin^2 n \leq 1 \rightarrow \sin^2 n \leq \frac{1}{r} \rightarrow -\frac{1}{r} \leq \sin n \leq \frac{1}{r}$



$\rightarrow D_f = [k\pi - \frac{\pi}{r}, k\pi + \frac{\pi}{r}]$

ب - ٤) $y = \log_r (1 - \log \frac{n}{r}) \rightarrow \log \frac{n}{r} \rightarrow n > 0$

$\hookrightarrow 1 - \log \frac{n}{r} > 0 \rightarrow \log \frac{n}{r} < 1 \xrightarrow{\text{مناسب (1,0)}} n > \frac{1}{r}$

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