

تکلیف شماره ۳ ریاضی سحر عالم

$$\frac{(n+3)}{(n-1)(2n^2+5n-3)} = \frac{(n+3)}{(n-1)(2n-1)(n+3)} \quad -1$$

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

$$ب) \frac{n+3}{(n+1)(2n^2+4n+3)} = \frac{n+3}{(n+1)(2n+1)(n+3)}$$

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

$$الف) \frac{n+3}{(n-1)(\underbrace{n^2-n+1}_{\text{فاقد ریشه}})} \quad D_f = \mathbb{R} - \{1\} \quad -2$$

$$ب) \frac{-3}{+0 - \frac{1}{0} +} \quad D_f = \mathbb{R} - (-3, 1]$$

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$$n \geq 1 \rightarrow n^2 - \sqrt{n} + 1 \rightarrow \begin{matrix} n=0 \\ n=2 \end{matrix}$$

$$n < 1 \rightarrow n^2 + 3n \rightarrow \begin{matrix} n=0 \\ n=-3 \end{matrix}$$

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

$$\text{ا) } [-n] \geq 2 \Rightarrow -n \geq 2 \Rightarrow$$

$$n \leq -2 \quad D_f = (-\infty, -2]$$

$$\text{ب) } [n]^2 - 2[n] - 3 \neq 0 \Rightarrow [n] \neq 3, -1$$

$$D_f = \mathbb{R} - [(-1, 0) \cup [3, 4))$$

$$\sqrt{\left[n + \frac{2}{3} - 1\right] + \left[n + \frac{2}{3}\right]} = \sqrt{2\left[n + \frac{2}{3}\right] - 1}$$

$$\left[n + \frac{2}{3}\right] \geq \frac{1}{2} \Rightarrow n \geq \frac{1}{3} \quad D_f = \left[\frac{1}{3}, \infty\right)$$

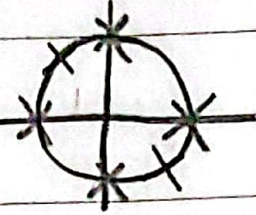
$$\text{ج) } \sqrt{[-a] + [a]} \quad \text{Diagram showing a number line with points at } -a \text{ and } a \text{ marked with circles and a vertical line segment between them.}$$

$$n - \frac{1}{3} \in \mathbb{Z} \Rightarrow D_f = \left\{n \mid n = k + \frac{1}{3}, k \in \mathbb{Z}\right\}$$

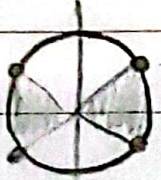
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الف) $\cot x, \tan x \in \mathbb{R} \quad \tan x \neq -1$ - 4

$$D_f = \mathbb{R} - \left\{ \frac{k\pi}{r}, k\pi - \frac{\pi}{r} \right\}$$


ب) $r \sin^2 x \leq 1 \Rightarrow \sin^2 x \leq \frac{1}{r} \Rightarrow |\sin x| \leq \frac{1}{\sqrt{r}}$



$$D_f = \left[k\pi - \frac{\pi}{9}, k\pi + \frac{\pi}{9} \right]$$

الف) $r \sin x \geq 1 \quad \sin x \geq \frac{1}{r}$ - 4



$$D_f = \left[rk\pi + \frac{\pi}{9}, rk\pi + \frac{5\pi}{9} \right]$$

ب) $r \cos x \leq 1 \Rightarrow \cos x \leq \frac{1}{r}$



$$D_f = \left[rk\pi + \frac{\pi}{r}, rk\pi + \frac{5\pi}{r} \right]$$

الف) $-1 \leq x^r + r x + 1 \leq +1 \rightarrow \begin{matrix} x^r + r x \leq 0 \\ x^r + r x + 2 \geq 0 \end{matrix}$ - 1

$$D_f = [-r, 0] \cap [(-\infty, -r] \cup [-1, \infty)) =$$

$$[-r, -r] \cup [-1, 0]$$

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$$\vdash) -1 \leq \sqrt{0-2n} \leq 1 \Rightarrow 0 \leq 0-2n \leq 1$$

$$D_f = [r, r/\omega]$$

$$1 - \log^n r > 0 \quad \log^n r < 1 \Rightarrow \quad \quad \quad -9$$

$$n < r, n > 0 \quad D_f = (0, r)$$

$$\vdash) 1 - \log \frac{n}{r} > 0 \Rightarrow \log \frac{n}{r} < 1 \Rightarrow$$

$$n > \frac{1}{r}, n > 0 \quad D_f = (\frac{1}{r}, \infty)$$

$$\text{ii)} \quad r^{fn-2r} \geq 1 \Rightarrow -n^r + fn \geq r \quad \quad \quad -10$$

$$n^r - fn + r \leq 0 \quad D_f = [1, r]$$

$$\vdash) \frac{rn+\omega}{rn+r} \in W \Rightarrow D_f = \left\{ n \mid n \in \frac{rW-\omega}{-rW+r} \right\}$$

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