

Date _____ No _____

آملین شیخان کرمات انجمنہ دہلی کلینک

الف $2-x \geq 0$ $4-\sqrt{2-x} \geq 0$ $-14 \leq x \leq 2$ -1
 $+2 \geq x$ $\sqrt{2-x} \leq 4$ $D_f = [-14, 2]$
 $2-x \leq 14$
 $-14 \leq x$

ب $x-2 \geq 0$ $3-\sqrt{x-2} \geq 0$
 $x \geq 2$ $3 \geq \sqrt{x-2}$ $D_f = [2, 11]$
 $9 \geq x-2$
 $11 \geq x$

الف $4-2x^2 \geq 0$ $-\sqrt{2} \leq x \leq \sqrt{2}$ $D_f = [-\sqrt{2}, \sqrt{2}]$
 $2-x^2 \geq 0$
 $2 \geq x^2$

ب $3|x| \geq 9$ $x \leq -3$ $D_f = (-\infty, -3] \cup [3, \infty)$
 $|x| \geq 3$ $x \geq 3$

الف $|x|-3 \neq 0$ $D_f = \mathbb{R} - \{-3, 3\}$
 $|x| \neq 3$ $D_f = (-\infty, -3) \cup (-3, 3) \cup (3, \infty)$

ب $x \geq 0$ $\sqrt{x} \neq 3$ $D_f = [0, 9) \cup (9, \infty)$
 $x \neq 9$

الف $3-|x| \geq 0$ $3 \geq |x|$ $-3 \leq x \leq 3$
 $|x|+2 \neq 0$ $|x| \neq -2$ $D_f = [-3, 3]$

ب $4-x^2 \geq 0$ $4 \geq x^2$ $-2 \leq x \leq 2$
 $|x|-1 \neq 0$ $|x| \neq 1$ $x \neq -1, 1$ $D_f = [-2, -1) \cup (-1, 1) \cup (1, 2]$

الف) $x + |x| > 0$ $0 < x$ $+ \sqrt{-x}$ $D_f = (0, +\infty)$ 2

ب) $\frac{1}{\sqrt{x|x|}}$ $x|x| > 0$ $0 < x$ $-x$ $+ \sqrt{}$ $D_f = (0, +\infty)$

الف) $2 - [x] \geq 0$ $2 \geq [x]$ $D_f = (-\infty, 2)$ 4

ب) $2 - [x] > 0$ $2 > [x]$ $D_f = (-\infty, 2)$

الف) $x[x] \neq 0$ $x \neq 0$ $[x] \neq 0$ $0 \leq x < 1$ $D_f = (-\infty, 0) \cup [1, +\infty)$ 5

ب) $-x[x] > 0$ $x[x] < 0$ $-x = +$ $x = -$ $D_f = \emptyset$
 $+x = +$ $x = +$ $D_f = \emptyset$
 محال
 لعدم
 توافق

الف) $[x - \frac{1}{\sqrt{x}}] - [x + \frac{2}{\sqrt{x}}] \geq 0$ $[x + \frac{2}{\sqrt{x}}] + [x + \frac{2}{\sqrt{x}} - 1] \geq 0$ 7

$2[x + \frac{2}{\sqrt{x}}] \geq 1$ $x + \frac{2}{\sqrt{x}} \geq \frac{1}{2}$ $x \geq \frac{1}{\sqrt{x}} \rightarrow D_f = [\frac{1}{\sqrt{x}}, +\infty)$

ب) $\sqrt{[x - \frac{1}{\sqrt{x}}] + [-x + \frac{1}{\sqrt{x}}]} \rightarrow \sqrt{[x - \frac{1}{\sqrt{x}}] + [-(x - \frac{1}{\sqrt{x}})]} \rightarrow x - \frac{1}{\sqrt{x}} \in \mathbb{Z} \rightarrow x \in \mathbb{Z} + \frac{1}{\sqrt{x}}$

$\rightarrow D_f = \{x \mid x = K + \frac{1}{\sqrt{x}}, K \in \mathbb{Z}\}$

الف) $2 \sin^2 x - 1 \neq 0 \rightarrow 2 \sin^2 x \neq 1 \rightarrow \sin^2 x \neq \frac{1}{2} \rightarrow \sin x \neq \pm \frac{\sqrt{2}}{2}$ 9
 $\rightarrow D_f = \mathbb{R} - \{ \frac{K\pi}{4} + \frac{\pi}{4}, \frac{K\pi}{4} + \frac{3\pi}{4} \}$

ب) $\cot x = \frac{\cos x}{\sin x} \rightarrow \sin x \neq 0$ $\left. \begin{array}{l} \tan x = \frac{\sin x}{\cos x} \rightarrow \cos x \neq 0 \end{array} \right\} D_f = \mathbb{R} - \{ \frac{K\pi}{4}, K\pi - \frac{\pi}{4} \}$

$\tan x \neq -1$

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$$\text{الف) } 2\sin x - 1 \geq 0 \rightarrow \sin x \geq \frac{1}{2} \rightarrow D_f = \left[2K\pi + \frac{\pi}{6}, 2K\pi + \frac{5\pi}{6} \right] \quad 10$$

$$\text{ب) } 1 - 2\cos x \geq 0 \rightarrow \cos x \leq \frac{1}{2} \rightarrow D_f = \left[2K\pi + \frac{\pi}{3}, 2K\pi + \frac{5\pi}{3} \right]$$