۱۹/۵

۱) $D_f = [-14, 2]$

۲) $2 \geq x \geq -14$

۳) الف) $2 - x \geq 0$, $4 - \sqrt{2-x} \geq 0$

$x \leq 2$, $4 \geq \sqrt{2-x}$

$16 \geq 2 - x$

$x \geq -14$

ب) $x - 2 \geq 0$, $3 - \sqrt{x-2} \geq 0$

$x \geq 2$, $3 \geq \sqrt{x-2}$

$9 \geq x - 2$

$11 \geq x$

$D_f = [2, 11]$

$2 \leq x \leq 11$

۴) الف) $4 - 2x^2 \geq 0$

$4 \geq 2x^2$

$2 \geq x^2$

$-\sqrt{2} \leq x \leq \sqrt{2}$

$D_f = [-\sqrt{2}, \sqrt{2}]$

ب) $3|x| - 9 \geq 0$

$3|x| \geq 9$

$|x| \geq 3$

$\begin{cases} x \geq 3 \\ x \leq -3 \end{cases}$

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

۵) الف) $|x| - 3 \neq 0$

$|x| \neq 3$

$x \neq 3, -3$

$D_f = \mathbb{R} - \{-3, 3\}$ ✓

ب) مخرج: $x \geq 0$

$\sqrt{x} - 3 \neq 0$

$\sqrt{x} \neq 3$

$x \neq 9$

$D_f = [0, 9) \cup (9, +\infty)$ ✓

۶) الف) $3 - |x| \geq 0$

$3 \geq |x|$ ✓

$-3 \leq x \leq 3$ ✓

مخرج: $|x| + 2 \neq 0$ ✓

$|x| \neq -2$ ✓ (همیشه برقرار است)

$D_f = [-3, 3]$ ✓

ب) $4 - x^2 \geq 0$

$4 \geq x^2$ ✓

$-2 \leq x \leq 2$ ✓

مخرج: $|x| - 1 \neq 0$ ✓

$|x| \neq 1$ ✓

$x \neq -1, 1$ ✓

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

⑤ ③

ب) $x|x| > 0$

⊕ ✓
⊖ ✗
⊙ ✗

$R_f = \mathbb{R}^+$

الف) $x + |x| > 0$

⊕ ✓
⊖ ✗
⊙ ✗

$R_f = \mathbb{R}^+$

④ ②

ب) $2 - [x] > 0$

$2 > [x]$

$R_f = (-\infty, 2)$

الف) $2 - [x] \geq 0$

$2 \geq [x]$

$R_f = (-\infty, 3)$

⑦ ③

ب) $-x[x] > 0$

⊕ ✗
⊖ ✗
⊙ ✗

$R_f = \phi$

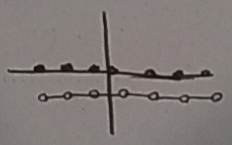
الف) $x[x] > 0$ / (غیر کلیت)

⊕ ✓ ✓
⊖ ✓
⊙ ✗

$R_f = (-\infty, 0) \cup [1, +\infty)$

⑧ ②

ب) $[x - \frac{1}{3}] + [-x + \frac{1}{3}] \geq 0$



$R_f = \{x / K + \frac{1}{3} = x, K \in \mathbb{Z}\}$

الف) $[x - \frac{1}{3}] + [x + \frac{2}{3}] \geq 0$

$[x + \frac{2}{3}] + [x + \frac{2}{3}] \geq 1$

$2[x + \frac{2}{3}] \geq 1$

$[x + \frac{2}{3}] \geq \frac{1}{2}$

$R_f = [\frac{1}{3}, +\infty)$

بقیه سوالی هم تکلیف شب ۴

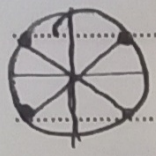
Date : Subject :

الف) $2\sin^2 x - 1 \neq 0$ (۱)

$\sin^2 x \neq \frac{1}{2}$

$\sin x \neq \pm\sqrt{\frac{1}{2}}$

$D_f = \mathbb{R} - \{\frac{k\pi}{2} + \frac{\pi}{4}\}$

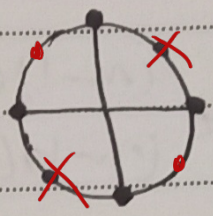


ب) $\cot x = \frac{\cos x}{\sin x} \rightarrow \sin x \neq 0$ (۱)

۰٫۵ ۱٫۵

$\tan x = \frac{\sin x}{\cos x} \rightarrow \cos x \neq 0$

$\tan x \neq 1$ $\tan x \neq -1$



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

$D_f = \mathbb{R} - \{\frac{k\pi}{2}, k\pi + \frac{\pi}{4}\}$

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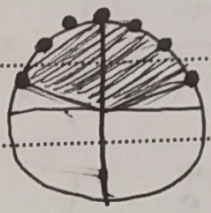
(۲) (۱۰)

الف) $2\sin x \geq 1$

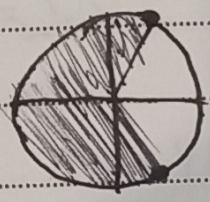
$\sin x \geq \frac{1}{2}$



$D_f = [2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6}]$

ب) $1 - 2\cos x > 0$

$\cos x < \frac{1}{2}$



$D_f = [2k\pi + \frac{\pi}{3}, 2k\pi - \frac{\pi}{3}]$