

الف) $2-x \geq 0$ $4-\sqrt{2-x} \geq 0$ $-14 \leq x \leq 2$ سوال اول
 $-x \geq -2$ $\sqrt{2-x} \leq 4$ $D_f = [-14, 2]$
 $x \leq 2$ $2-x \leq 14$ $-14 \leq x$
 $-x \leq 14$

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) $4-2x^2 \geq 0$ $-52 \leq x \leq 52$ $D_f = [-52, 52]$ سوال دوم
 $2-x^2 \geq 0$
 $x^2 \leq 2$

ب) $3|x|-9 \geq 0$
 $|x| \geq 3$ $x \leq -3$ $D_f = (-\infty, -3] \cup [3, \infty)$
 $x \geq 3$

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

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

الف) $3 - |x| \geq 0$ $3 \geq |x|$
 $-3 \leq x \leq 3$

سوال چهارم

$$D_f = [-3, 3]$$

$|x| + 2 \neq 0$ $|x| \neq -2$

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) $x + |x| > 0$

سوال پنجم

$0 \times$
 $+ \checkmark$
 $- \times$

$$D_f = (0, \infty)$$

ب)

$$\frac{1}{\sqrt{x|x|}}$$

$x|x| > 0$ $0 \times - \times + \checkmark$

$$D_f = (0, \infty)$$

الف) $2 - [x] \geq 0$

سوال ششم

$2 \geq [x]$

$$D_f = (-\infty, 3)$$

ب) $2 - [x] > 0$

$$D_f = (-\infty, 2)$$

$2 > [x]$



الف $x[n] \neq 0$

سوال هفتم

$n \neq 0$ $[n] \neq 0$

$0 \leq n < 1$ $D_f (-\infty, 0) \cup [1, +\infty)$

ب $-x[n] > 0$

$D_f = \emptyset$

$x[n] < 0$

هم علامت کمتر منفی
بزرگ

$-x - = +$

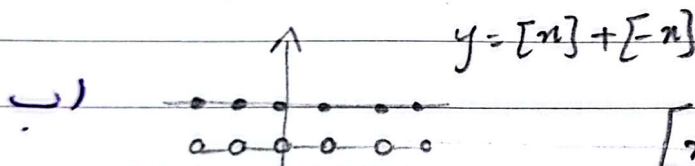
$+x + = +$

سوال هشتم

الف $[n - \frac{1}{n}] - [n + \frac{1}{n}] \geq 0$

$n \in [K + \frac{1}{n}, K + \frac{2}{n})$ $n \in [m - \frac{1}{n}, m + \frac{1}{n})$

D_f $n \in [K + \frac{1}{n}, K + \frac{2}{n}) \cap [m - \frac{1}{n}, m + \frac{1}{n}), K \geq m$



$[n - \frac{1}{n}] + [-n + \frac{1}{n}] \geq 0$

$\{n \in \mathbb{R} \mid n = n + \frac{1}{n}, n \in \mathbb{Z}\}$

الف $2 \sin^2 n - 1 \neq 0$

سوال نهم

$2 \sin^2 n \neq 1$

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

$\sin n \neq \pm \frac{\sqrt{2}}{2}$

$n \in \mathbb{R} - \left\{ \frac{\pi}{4} + K\pi, \frac{3\pi}{4} + K\pi \mid K \in \mathbb{Z} \right\}$

$$\cot x \rightarrow \tan x = 0 \quad x = k\pi$$

$$\text{ب) } \tan x + 1 \neq 0 \quad x \in \mathbb{R} - \left\{ k\pi, -\frac{\pi}{2} + k\pi \mid k \in \mathbb{Z} \right\}$$

$$\tan x \neq -1$$

سوال (۱۰)

$$\sqrt{y \sin x} - 1$$

$$y \sin x - 1 \geq 0$$

$$y \sin x \geq 1$$

$$\sin x \geq \frac{1}{y} \quad 0 \leq x < 2\pi$$

$$k \in \mathbb{Z} \quad x \in \left[\frac{\pi}{6} + 2k\pi, \frac{5\pi}{6} + 2k\pi \right]$$

$$\text{ب) } 1 - y \cos x \geq 0 \quad 1 \geq y \cos x$$

$$\cos x \leq \frac{1}{y}$$

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