

۱۴

۱۹،۵

۳ ترسیا ۲ قاصالح

$$11 \geq x \geq 2$$

$$D_f = [2, 11]$$

$$\begin{aligned} x &\geq 2 \\ 11 - \sqrt{x-2} &\geq 0 \\ 11 &\geq x \end{aligned}$$

۲ ✓

$$2 \geq x \quad (الف)$$

$$\begin{aligned} 11 - \sqrt{2-x} &\geq 0 \\ 19 &\geq 2-x \\ x &\geq -17 \end{aligned} \quad D_f = [-17, 2]$$

$$3|x| - 9 \geq 0$$

$$3|x| \geq 9$$

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

(ب)

۱،۵

$$4 - 2x^2 \geq 0$$

$$4 \geq 2x^2$$

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

(الف)

$$D_f = (-\infty, -\sqrt{2}] \cup [\sqrt{2}, +\infty)$$

$$D_f = [0, +\infty) - \{9\} \quad x \geq 0$$

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

$$x \neq 9$$

(ب)

۲ ✓

$$|x| - 3 \neq 0$$

$$x \neq \pm 3$$

(الف)

$$D_f = \mathbb{R} - \{\pm 3\}$$

$$\begin{cases} |x| - 1 \neq 0 \\ |x| \neq 1 \\ x \neq \pm 1 \end{cases}$$

$$4 - x^2 \geq 0$$

$$4 \geq x^2$$

$$2 \geq x$$

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

(ب)

۲ ✓

$$3 - |x| \geq 0$$

$$3 \geq |x| \Rightarrow x \geq -3$$

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

$$|x| \neq -2$$

همیشه برقرار

(الف)

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

$$x|x| > 0$$

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

(ب)

۲ ✓

$$x + |x| > 0$$

$$|x| > -x$$

همیشه برقرار

$$\Rightarrow D_f = \mathbb{R}^+$$

(الف)

$$2 - [x] > 0$$

$$2 > [x]$$

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

(ب)

۲ ✓

$$2 - [x] \geq 0$$

$$2 \geq [x]$$

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

(الف)

$$-x[x] > 0 \quad (ب)$$

$$[x] > x \quad D_f = \emptyset$$

$$x[x] > 0 \quad (الف (7)$$

$$D_f = \mathbb{R} - [0, 1)$$

$$[x] + [-x] \geq 0 \quad (ب)$$

$$x - \frac{1}{x} \in \mathbb{Z}$$

$$D_f = \left\{ x / x = k + \frac{1}{x}, k \in \mathbb{Z} \right\}$$

$$[x - \frac{1}{x}] + [x + \frac{1}{x}] \geq 0 \quad (الف (8)$$

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

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

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

$$[x - \frac{1}{x}] \geq -\frac{1}{x}$$

$$[x - \frac{1}{x}] \geq 0 \quad x \geq \frac{1}{x}$$

$$D_f = [\frac{1}{x}, +\infty)$$

$$\tan x + 1 \neq 0 \quad (ب)$$

$$\tan x \neq -1$$

$$x \neq k\pi + \frac{3\pi}{4}$$

$$\cos x \neq 0$$

$$\sin x \neq 0$$

$$D_f = \mathbb{R} - \left\{ k\pi, k\pi + \frac{\pi}{4}, k\pi + \frac{3\pi}{4} \right\}$$

$$2 \sin^2 x - 1 \neq 0$$

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

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

$$D_f = \mathbb{R} - \left\{ 2k\pi + \frac{\pi}{4}, 2k\pi + \frac{3\pi}{4}, 2k\pi + \frac{5\pi}{4}, 2k\pi + \frac{7\pi}{4} \right\}$$

$$1 - 2 \cos x \geq 0 \quad (ب)$$

$$1 \geq 2 \cos x$$

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

$$D_f = \left[2\pi k + \frac{\pi}{3}, 2\pi k + \frac{5\pi}{3} \right]$$

$$2 \sin x - 1 \geq 0 \quad (الف (10)$$

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

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