

$$a \cdot 2 = 0 \Rightarrow a = 2 \quad 2x + b \geq 0 \quad \frac{-b}{-2} \quad \frac{-b}{2} = 3 \rightarrow b = -6$$

سوال ۱)

$$\Delta \leq 0 \quad r^2 - 4(1)(r-m^2) \leq 0 \quad (b^2 - 4ac) \quad r^2 - 4 \leq 0 \quad \frac{-1}{+} \quad \frac{1}{-} \quad [-1, 1] \sim \text{اصلی} : 1 - (-1) = 2$$

سوال ۲)

$$\textcircled{1} \quad x^2 - x^2 \geq 0 \quad \frac{-x}{-1} \quad \frac{x}{1} \quad [-x, x] \quad \Rightarrow D_f = \{-x, -1, 0, 1, x\} \rightarrow n = 5$$

$$\textcircled{2} \quad [x] + [-x] \neq -1 \rightarrow x \in \mathbb{Z}$$

سوال ۳)

$$\text{الف)} \quad x^2(x+3) \geq 0 \quad \frac{-x}{-1} \quad \frac{x}{1} \quad D_f = [-3, +\infty)$$

$$\text{ب)} \quad \frac{(x-1)(x+1)x^2(x-3)}{(x-1)(x^2+x+1)} \geq 0 \quad \frac{-1}{+} \quad \frac{x}{-1} \quad \frac{x}{1} \quad \frac{3}{-1} \quad D_f = (-\infty, -1] \cup \{0\} \cup [3, +\infty)$$

$$\text{الف)} \quad |x-2| - 3 \geq 0 \quad |x-2| \geq 3 \rightarrow \begin{cases} x-2 \geq 3 \rightarrow x \geq 5 \\ x-2 \leq -3 \rightarrow x \leq -1 \end{cases} \quad D_f = (-\infty, -1] \cup [5, +\infty)$$

$$\text{ب)} \quad x - |x-2| \geq 0 \quad |x-2| \leq x \rightarrow -x \leq x-2 \leq x \rightarrow -x \leq x \leq 2 \quad D_f = [-2, 2]$$

$$\text{الف)} \quad 1 - x|x| \geq 0 \quad x|x| \leq 1 \quad \begin{matrix} \ominus \checkmark \\ \oplus \checkmark \end{matrix} \quad \begin{cases} \oplus \rightarrow x^2 \leq 1 \\ -1 \leq x \leq 1 \end{cases} \rightarrow D_f = (-\infty, 1]$$

$$\text{ب)} \quad \textcircled{1} \quad 3 - |x-2| \geq 0 \rightarrow |x-2| \leq 3 \quad -3 \leq x-2 \leq 3 \quad 1 \leq x \leq 5$$

$$\textcircled{2} \quad 3 - |x-2| \neq 1 \quad |x-2| \neq 2 \quad \begin{cases} x-2 \neq 2 \rightarrow x \neq 4 \\ x-2 \neq -2 \rightarrow x \neq 0 \end{cases} \quad D_f = [1, 5] - \{0, 4\}$$

$$\text{الف)} \quad \cos x \neq 0 \quad D_f = \mathbb{R} - \left\{ k\pi + \frac{\pi}{2} \right\}$$

$$\text{ب)} \quad 2 \cos x - 1 \neq 0 \quad \cos x \neq \frac{1}{2} \quad D_f = \mathbb{R} - \left\{ 2k\pi + \frac{\pi}{3}, 2k\pi - \frac{\pi}{3} \right\}$$

$$\text{الف)} \quad |2x+1| \neq |x+3| \xrightarrow{\text{مربع}} (2x+1)^2 \neq (x+3)^2 \quad 4x^2 + 4x + 1 \neq x^2 + 6x + 9 \quad 3x^2 - 2x - 8 \neq 0$$

سوال ۱)

$$x_{1,2} = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-(-2) \pm \sqrt{(-2)^2 - 4(2)(-1)}}{2 \times 2} \quad \begin{cases} \frac{1}{2} = \frac{1}{2} \\ -\frac{1}{2} = -\frac{1}{2} \end{cases} \quad D_f = \mathbb{R} - \left\{ -\frac{1}{2}, 2 \right\}$$

$$\text{ـ) } |2x+1| - |x+3| \geq 0 \quad |2x+1| \geq |x+3| \rightarrow 3x^2 - 2x - 1 \geq 0$$

(از قسمت الف می دانیم)

$$\begin{array}{c|c|c|c|c} & -\frac{1}{3} & & 1 & \\ \hline & + & - & - & + \end{array}$$

$$D_f = (-\infty, -\frac{1}{3}] \cup [1, +\infty)$$

$$\textcircled{1} \quad 2x-1 > 0 \rightarrow x > \frac{1}{2}$$

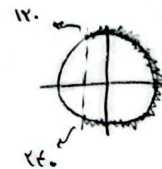
$$\textcircled{2} \quad \log_{\omega}^{(2x-1)} > 0 \quad 2x-1 > 1 \rightarrow x > 1$$

$$\textcircled{3} \quad \log_{\omega}^{\log_{\omega}^{(2x-1)}} \geq 0 \rightarrow -\log_r^{\log_{\omega}^{(2x-1)}} \geq 0 \quad \log_{\omega}^{(2x-1)} \leq 1 \quad 2x-1 \leq \omega \rightarrow x \leq 3$$

(9 سوال)

$$\left. \begin{array}{l} \textcircled{1} \\ \textcircled{2} \\ \textcircled{3} \end{array} \right\} \rightarrow D_f = (1, 3]$$

$$\text{الف) } 2\cos x + 1 > 0 \quad \cos x > -\frac{1}{2}$$



$$D_f = (2K\pi - \frac{2\pi}{3}, 2K\pi + \frac{2\pi}{3})$$

(10 سوال)

$$\text{ـ) } \textcircled{1} \quad x+1 \neq 0 \rightarrow x \neq -1$$

$$\textcircled{2} \quad \frac{x-1}{x+1} > 0 \quad \begin{array}{c|c|c|c|c} & -1 & & 1 & \\ \hline & + & - & - & + \end{array}$$

$$\textcircled{3} \quad \log \frac{x-1}{x+1} \geq 0 \rightarrow \frac{x-1}{x+1} \geq 1 \quad \frac{x-1-x-1}{x+1} \geq 0$$

$$\begin{array}{c|c|c|c|c} & -1 & & & \\ \hline & + & - & - & + \end{array}$$

$$\left. \begin{array}{l} \textcircled{2} \\ \textcircled{3} \end{array} \right\} \rightarrow D_f = (-\infty, -1)$$