

$$a-2=0 \Rightarrow a=2 \Rightarrow \sqrt{2x+b} \Rightarrow 2+b=0 \Rightarrow b=-2$$

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$$\Delta \leq 0 \Rightarrow 4-1+4m^2 \leq 0 \Rightarrow 4m^2-4 \leq 0 \Rightarrow m^2-1 \leq 0$$

$$-1 \leq m \leq 1 \Rightarrow 1-(-1)=2$$

بیشترین کمترین

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

$$[x] + [x] + 1 \Rightarrow x \in \mathbb{Z} \Rightarrow 1 \Rightarrow \checkmark$$

$$x \in \mathbb{R} - \mathbb{Z} \Rightarrow 0 = [x] + [x] + 1 = 0 \Rightarrow \text{تعریف نشده}$$

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

(الف)

$$x^2-1=0 \Rightarrow x=1, -1$$

$$x^3-1=0 \Rightarrow x=1$$

$$x^3-2x^2=0 \Rightarrow x^2(x-2)=0 \Rightarrow x=0, 2$$

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$$|x-2| \geq 3 \Rightarrow \left. \begin{array}{l} x-2 \geq 3 \Rightarrow x \geq 5 \\ x-2 \leq -3 \Rightarrow x \leq -1 \end{array} \right\} D_f: (-\infty, -1] \cup [5, +\infty)$$

(الف)

$$4 \geq |x-2| \Rightarrow 4 \geq 2-x \geq -4 \Rightarrow -2 \leq x \leq 6 \Rightarrow D_f: [-2, 6]$$

(ب)

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$1 > x \xrightarrow{x \geq 0} 1 > x^2 \rightarrow 1 \geq x \geq -1$ $\xrightarrow{x \leq 0} 1 > -x^2 \rightarrow -1 \leq x^2 \checkmark \quad D_f: (-\infty, 1]$	(اف)	6
$\rightarrow 3 \geq x-5 \rightarrow 8 \geq x \geq 2$ $\rightarrow \sqrt{3 x-5 } \neq 1 \rightarrow 3 - x-5 \neq 1 \rightarrow \begin{cases} x-5=2 \rightarrow x=7 \\ x-5=-2 \rightarrow x=3 \end{cases} \quad D_f: [2, 8] - \{3, 7\}$	(ب)	7
$\cos x \neq 0 \rightarrow D_f: \mathbb{R} - \{k\pi + \frac{\pi}{2}\}$	(اف)	8
$\cos x \neq \frac{1}{2} \rightarrow D_f: \mathbb{R} - \{2k\pi + \frac{\pi}{3}, 2k\pi - \frac{\pi}{3}\}$	(ب)	9
$ 2x+1 = x+3 \xrightarrow{\text{مربع}} 4x^2 + 4x + 1 = x^2 + 6x + 9 \rightarrow 3x^2 - 2x - 8 = 0$ $x = \frac{2 \pm 10}{6} \rightarrow x = 2, -\frac{4}{3} \rightarrow D_f: \mathbb{R} - \{-\frac{4}{3}, 2\}$	(اف)	10
$ 2x+1 \geq x+3 \xrightarrow{\text{مربع}} 3x^2 - 2x - 8 \geq 0 \rightarrow \frac{-4}{3} \leq x \leq 2$ $D_f: (-\infty, -\frac{4}{3}] \cup [2, +\infty)$	(ب)	11
$2x-1 > 0 \rightarrow x > \frac{1}{2} \quad \log_2^{2x-1} > 0 \rightarrow 2x-1 > 1 \rightarrow x > 1$ $\log_{\frac{1}{2}}^{\log_2^{2x-1}} > 0 \rightarrow \log_2^{2x-1} \leq 1 \rightarrow 2x \leq 4 \rightarrow x \leq 2$ $D_f: (1, 2]$	(اف)	12
$2(\cos x + 1) > 0 \rightarrow \cos x > -\frac{1}{2}$ $D_f: \mathbb{R} - [2k\pi + \frac{2\pi}{3}, 2k\pi + \frac{4\pi}{3}]$	(اف)	13
$\rightarrow \frac{x-1}{x+1} > 0 \rightarrow \frac{-1}{x+1} \rightarrow D_f: (-\infty, -1) \cup (1, +\infty)$ $\rightarrow \log \frac{x-1}{x+1} > 0 \rightarrow \frac{x-1}{x+1} > 1 \rightarrow \frac{-2}{x+1} > 0 \rightarrow D_f: (-\infty, -1)$	(ب)	14