

$$a-2=0$$

$$a=2$$

$$\sqrt{2x+b}$$

$$9+b=0$$

$$3=x$$

سوال ۱

$$b=-9$$

$$\Delta \leq 0 \quad 4-4+4m^2 \rightarrow -4+4m^2 \leq 0$$

$$-4(1-m^2) \leq 0$$

[2: امتداد]

$$[-1, 1]$$

$$\begin{array}{r} -1 \quad +1 \\ + \quad - \quad + \end{array}$$

سوال ۲

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

$$4 \geq x^2$$

$$2 \geq x \geq -2$$

$$[2] + [-2] + 1 \neq 0$$

$$2, -1, 0, 1, 2$$

$$i \neq x \in \mathbb{Z}$$

اعداد صحیح

سوال ۳

$$x^3 + 3x^2 \geq 0$$

$$x^2(x+3) \geq 0$$

$$\begin{array}{r} -3 \quad + \\ -4 \quad + \quad + \end{array}$$

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

$$(x-1)(x+1)x^2(x-3)$$

$$\begin{array}{r} -1 \quad + \quad + \quad + \\ + \quad - \quad - \quad - \quad + \end{array}$$

$$D_f = (-\infty, -1] \cup [3, +\infty) \cup \{0\}$$

$$|x-2| - 3 \geq 0$$

$$|m-2| \geq 3$$

$$m-2 \geq 3$$

سوال ۴

$$m \geq 5$$

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

$$m-2 \leq -3 \quad m \leq -1$$

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

$$4 \geq |2-x|$$

$$-4 \leq 2-x \leq 4$$

$$-6 \leq -x \leq 2$$

$$4 \geq x \geq -2$$

$$D_f = [-2, 4]$$

الف) $1 - x/x \geq 0$ $1 \geq m/x$ $\frac{1}{x} \geq m$ $1 \geq -x^2$ سوال 9
 $\frac{1}{x} \geq m$ $1 \geq x^2$ $-1 \leq x \leq 1$

ب) $3 - |x - 2| \geq 0$ $3 \geq |x - 2|$ $-3 \leq m - 2 \leq 3$
 $2 \leq x \leq 8$

$D_f = [2, 8] - \{3, 7\}$

ج) $\cos x \neq 0$ $\mathbb{R} - \{k\pi + \frac{\pi}{2}\}$ سوال 7

د) $2 \cos x - 1 \neq 0$ $\cos x \neq \frac{1}{2}$ $\mathbb{R} - \{\frac{\pi}{3}, \frac{5\pi}{3}\}$

الف) $|2x+1| = |m+3|$ $|2m+1| = |m+3|$ سوال 8
 $4x^2 + 4x + 1 = x^2 + 9 + 4x$ $3x^2 - 2x - 8 = 0 \Rightarrow m^2 - 2x - 2x = 0$
 $D_f = \mathbb{R} - \{2, -\frac{8}{3}\}$ $2, -\frac{8}{3} \leftarrow (m-7)(m+8) = 0$

ب) $|2x+1| \geq |m+3| \Rightarrow 4x^2 + 4x + 1 \geq x^2 + 9 + 4x \Rightarrow 3x^2 - 2x - 8 \geq 0$
 $D_f = (-\infty, -\frac{8}{3}] \cup [2, +\infty)$ $\frac{-\frac{8}{3} \pm \sqrt{\frac{64}{9} + 24}}{6}$

ج) $2x-1 > 0$ $x > \frac{1}{2}$ $\log_a 2x-1 > 0$ سوال 9
 $\log_a \log_a (2m-1) \geq 0$ $\log_a 2m-1 \leq 1$ $2m-1 > 1$ $m > 1$
 $2m-1 \leq 1$ $m \leq 1$
 $D_f = (1, 3]$

مسائل تمرین

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

$$D_f = \left(2k\pi - \frac{2\pi}{3}, 2k\pi + \frac{2\pi}{3} \right)$$

ب) $\frac{x-1}{x+1} > 0 \quad \frac{-1}{+} \frac{1}{-} \frac{1}{+} \rightarrow D_f = (-\infty, -1)$
↑

$$\log \frac{n-1}{n+1} \geq 0 \quad \frac{n-1}{n+1} \geq 1 \quad \frac{n-1-x-1}{n+1} \geq 0$$

$n < -1$