

← سؤال 1

معادله درجه 1 است $\Rightarrow a = 2$

$\sqrt{2x+b} \rightarrow [2, \infty) \xrightarrow[\text{منبرک}]{\text{بنا بر 3}}$ $b = -4$

← سؤال 2

$a > 0 \rightarrow 1$
 $\Delta \leq 0 \rightarrow 4 - 4(2-m^2) \leq 0 \rightarrow 4 - 8 + 4m^2 \leq 0 \rightarrow m^2 - 1 \leq 0 \rightarrow \frac{1}{+ \phi} - \frac{1}{\phi +} \Rightarrow$
 $\max \Rightarrow 1 \quad \min \Rightarrow -1 \rightarrow 1 - (-1) = 2$

← سؤال 3

$[n] + [-n] \rightarrow \begin{cases} n \in \mathbb{Z} \rightarrow 0 \rightarrow \text{مخرج 1 می شود} \rightarrow \text{رق} \\ n \notin \mathbb{Z} \rightarrow -1 \rightarrow \text{مخرج منبری می شود} \rightarrow \text{رق} \end{cases}$

مخرج $\rightarrow \frac{-2}{-\phi + \phi} \rightarrow [-2, 2]$

اعداد صحیح قابل قبول $\Rightarrow \{-2, -1, 0, 1, 2\} \Rightarrow 5$

← سؤال 4

الف $\sqrt{x^2(x+3)} \rightarrow \frac{-3}{-\phi + \phi} + \frac{x}{\phi} \rightarrow D_f \Rightarrow [-3, \infty)$
 ب $\sqrt{\frac{(x-1)(x+1)x^2(x-3)}{(x-1)(x^2+x+1)}} \rightarrow \frac{-1}{+\phi} - \frac{x}{\phi} - \frac{1}{-\phi} + \frac{x}{+\phi} \Rightarrow D_f \Rightarrow (-\infty, -1] \cup [2, \infty) \cup \{0\}$

← سؤال 5

الف $\sqrt{|x-2| - 3} \rightarrow |x-2| - 3 \geq 0 \rightarrow |x-2| \geq 3$
 $x-2 \geq 3 \rightarrow x \geq 5$
 $x-2 \leq -3 \rightarrow x \leq -1$
 $D_f \Rightarrow (-\infty, -1] \cup [5, \infty)$

ب $\sqrt{4 - |x-m|} \rightarrow 4 - |x-m| \geq 0 \rightarrow |x-m| \leq 4 \rightarrow -4 \leq x-m \leq 4 \rightarrow -4 \leq x \leq 8$
 $0 \leq x \leq 4 \rightarrow D_f = [0, 4]$

← سؤال 6

$\Delta = 0 \rightarrow 1 - x^2 \geq 0 \rightarrow x^2 \leq 1 \rightarrow -1 \leq x \leq 1$
 $\Delta > 0 \rightarrow 1 + x^2 \geq 0 \rightarrow x^2 \geq -1 \rightarrow \text{همست!} \rightarrow x \leq 1$

ب $3 - |x-5| \neq 1 \rightarrow |x-5| \neq 2 \rightarrow \begin{cases} x-5 \neq 2 \rightarrow x \neq 7 \\ x-5 \neq -2 \rightarrow x \neq 3 \end{cases} \cap \Rightarrow D_f = [2, 8] - \{3, 7\}$
 $3 - |x-5| \geq 0 \rightarrow -3 \leq x-5 \leq 3 \rightarrow 2 \leq x \leq 8$

← 7) 1/2

$$y = \frac{\sin^r x - 1}{\cos x} \rightarrow \cos x \neq 0 \rightarrow \text{Unit Circle} \rightarrow D_f = \mathbb{R} - \left\{ k\pi \pm \frac{\pi}{2} \right\}$$

$$y = \frac{\cos x}{r \cos x - 1} \Rightarrow \cos x \neq \frac{1}{r} \Rightarrow \text{Unit Circle} \Rightarrow D_f = \mathbb{R} - \left\{ r k\pi + \frac{\pi}{r}, r k\pi - \frac{\pi}{r} \right\}$$

← 8) 1/2

$$\begin{aligned} \text{ن) } |r n + 1| &\neq |n + r| \rightarrow r n + 1 \neq n + r \rightarrow n \neq r \\ &\rightarrow r n + 1 \neq -n - r \rightarrow r n \neq -r \rightarrow n \neq \frac{-r}{r} \end{aligned}$$

$$D_f = \mathbb{R} - \left\{ r, \frac{-r}{r} \right\}$$

$$\Rightarrow \frac{-\frac{r}{r}}{+ \phi - \phi +} \rightarrow D_f = (-\infty, -\frac{r}{r}] \cup [r, \infty +)$$

← 9) 1/2

$$\begin{aligned} r n - 1 &> 0 \rightarrow n > \frac{1}{r} \Rightarrow \text{I} \\ \log_{r n - 1} &> 0 \rightarrow r n - 1 > 1 \rightarrow n > 1 \Rightarrow \text{II} \\ \log_{\log_{r n - 1}} &> 0 \rightarrow r n - 1 > 0 \rightarrow n > \frac{1}{r} \Rightarrow \text{III} \end{aligned} \left\{ \begin{array}{l} \text{I} \cap \text{II} \cap \text{III} \Rightarrow (r, \infty +) \end{array} \right.$$

← 10) 1/2

$$\text{ن) } r \cos x + 1 > 0 \rightarrow \cos x > \frac{-1}{r}$$

$$\text{Unit Circle} \quad D_f = \mathbb{R} - \left[r k\pi + \frac{r\pi}{r}, r k\pi + \frac{r\pi}{r} \right]$$

$$\Rightarrow \frac{\frac{n-1}{n+1}}{+ \phi - \phi +} \rightarrow (-\infty, -1) \cup (1, \infty +)$$

$$\log_{\frac{n-1}{n+1}} > 0 \rightarrow \frac{n-1}{n+1} > 1 \rightarrow \frac{n-1-n-1}{n+1} > 0 \rightarrow \frac{-2}{n+1} < 0 \rightarrow \frac{-1}{\phi +} (-\infty, -1) \text{ (II)}$$

$$D_f = \text{I} \cap \text{II} \Rightarrow (-\infty, -1)$$