

14.  $[1, +\infty)$

$$u = v, \quad y + b = 0, \quad b = -y$$

$$Df = \mathbb{R}$$

$$m_{\max} - m_{\min} = 1 - (-1) = 2$$

$$\Delta \zeta_0 \rightarrow r^Y - r(Y - m^Y) = r - 1 + r m^Y = r m^Y - f \leq 0$$

④  $m^p \leq 1$   
 $-1 < m \leq 1$

$$[n] + [-n] = -1 \Rightarrow n \notin \pi$$

$$[n] + [-n] \neq -1 \rightarrow n \in \mathbb{Z} \text{ ist } \text{Zur II}$$

$$K - n^p \geq 0 \quad K \geq n^p \quad K \leq n \leq K \quad II$$

$$I \cap II \Rightarrow \{-1, 0, 1, 2\} \quad (\text{صحیح})$$

$$x^w + w x^v \geq 0$$

$$x^r(x+y) \geq 0$$

$$Df = [-\gamma, +\infty)$$

$$c) y = \sqrt{\frac{(x^k - 1)(x^k - 1)x^k}{x^k - 1}}$$

$$x \neq 1 \Rightarrow x \neq 1$$

$$\frac{(2^k-1)(2^k-1)}{(2^k-1)} \geq 0$$

$\begin{array}{ccccccc} & & * & & * & & \\ & & 0 & & 1 & & \\ \hline -1 & & & & & & -1 \\ | & & | & & | & & | \\ +0 & -0 & -0 & -0 & -0 & + & \end{array}$

$$Df = (-\infty, -1] \cup [4, +\infty) \cup \{0\}$$

به ازای  $n = 0$  عبارت صفر شود پس در دامنه هست!

$$|x-2| \geq 3 \rightarrow x-2 \geq 3 \quad \vee \quad x-2 \leq -3$$

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

c)  $y = \sqrt{x - |x - 2|}$

$$x \geq |y - z| \rightarrow x \geq y - z \quad z \geq -y$$

$$Df = [-x, y]$$

$$\rightarrow -1 \leq 1 - n \quad n \leq 4$$

الف)  $y = \sqrt{1-x|x|}$   $1-x|x| \geq 0$   $1 \geq x(|x|) \Rightarrow x^2 \leq 1 \Rightarrow -1 \leq x \leq 1$   
 $Df = (-1, 1] \cup [0, 1] = (-1, 1]$

ب)  $y = \frac{1}{\sqrt{3-|x-\omega|-1}}$   $3-|x-\omega| \geq 0, x \neq 1$   
 $|x-\omega| \leq 3$   
 $-3 \leq x-\omega \leq 3 \rightarrow -2 \leq x \leq 4$   
 $Df = [-2, 4] - \{1\}$

الف)  $y = \frac{\sin^2 x - 1}{\cos x}$   $\cos x \neq 0 \rightarrow Df = \mathbb{R} - \{2k\pi + \frac{\pi}{2}, 2k\pi + \frac{3\pi}{2}\}$

ب)  $y = \frac{\cos x}{x \cos x - 1}$   $x \cos x - 1 \neq 0$   $x \cos x \neq 1$   
 $\cos x \neq \frac{1}{x}$   
 $Df = \mathbb{R} - \{2k\pi + \frac{\pi}{x}, 2k\pi + \frac{3\pi}{x}\}$

الف)  $y = \frac{x+3}{|x+1| - |x+3|}$   $|x+1| \neq |x+3|$   
 $Df = \mathbb{R} - \{2, \frac{4}{3}\}$

ب)  $y = \sqrt{|x+1| - |x+3|}$   $|x+1| \geq |x+3|$   
 $Df = (-\infty, \frac{4}{3}] \cup [2, +\infty)$

$f(x) = \sqrt{\log_{\log_{\frac{1}{5}}(x-1)}}$   $x-1 > 0, x > 1, x > \frac{1}{5}$

$\log_{\frac{1}{5}}(x-1) > 0 \rightarrow x-1 > 1 \rightarrow x > 2$

$\log_{\log_{\frac{1}{5}}(x-1)} > 0$   $\log_{\frac{1}{5}}(x-1) > 1$   $x-1 > 5$   $x > 6$

$I \cap II = (6, \infty)$

الف)  $y = \log(x \cos x + 1)$   $x \cos x + 1 > 0$   $x \cos x > -1$   $\cos x > -\frac{1}{x}$

$Df = \mathbb{R} - [2k\pi + \frac{3\pi}{2}, 2k\pi + \frac{5\pi}{2}]$

ب)  $y = \sqrt{\log \frac{x-1}{x+1}}$   $\frac{x-1}{x+1} > 0$   $\log \frac{x-1}{x+1} \geq 0 \rightarrow \frac{x-1}{x+1} \geq 1$   $\frac{x-1}{x+1} - 1 \geq 0$   
 $\frac{x-1-x-1}{x+1} \geq 0 \rightarrow \frac{-2}{x+1} \geq 0 \Rightarrow x+1 < 0 \Rightarrow x < -1$   
 $Df = (-\infty, -1)$



