

۲. آخرین خوب نوشتار

عبارت درجه اول است، یعنی به فرم $ax+b$ و $a=2$
 $\sqrt{2x+b} \rightarrow x \mid - \frac{3}{b} + \rightarrow x=3 \quad (2)3+b=0 \quad b=-6$

داده R است، پس عبارت = هواره ناقص
 $0 \leq \dots \rightarrow (2)^2 - 4(1-m^2) \geq 0 \rightarrow 4-4+4m^2 \geq 0 \rightarrow m^2 \geq 1$
 $-1 \leq m \leq 1 \rightarrow m \text{ حاکم} - m \text{ حاکم} = 1 - (-1) = 2$

$[x] + [-x] + 1 \rightarrow x \in \mathbb{Z} \rightarrow [x] + [-x] + 1 = 1 \quad \checkmark$
 $x \notin \mathbb{Z} \rightarrow [x] + [-x] + 1 = 0 \quad \times$
 $x \in \mathbb{Z} \rightarrow -2 \leq x \leq 2 \quad D_f = \{-2, -1, 0, 1, 2\}$

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

$|x-2|-3 \geq 0 \rightarrow x \geq 5 \rightarrow x \leq -1 \quad D_f = (-\infty, -1] \cup [5, \infty)$

$|x-2| \geq 0 \rightarrow 0 \leq x-2 \leq 4 \rightarrow -2 \leq x \leq 6 \rightarrow D_f = [-2, 6]$

$$1 - x|x| > 0 \Rightarrow x < 1 \rightarrow D_f = (-\infty, 1]$$

$$3 - |x - 2| > 0 \rightarrow |x - 2| < 3 \rightarrow -3 < x - 2 < 3 \rightarrow 1 < x < 5$$

$$\sqrt{x - |x - 2|} - 1 \neq 0 \rightarrow 3 - |x - 2| \neq 2 \rightarrow |x - 2| \neq 1 \rightarrow x \neq 1, 3$$

$$D_f = [2, 3) \cup (3, 5) \cup [5, \infty) \subset [2, \infty) - \{1, 3\}$$

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

$$\rightarrow) \cos x \neq 1 \quad \cos x \neq \frac{1}{\sqrt{2}} \quad D_f = \mathbb{R} - \left\{ k\pi \pm \frac{\pi}{4} \right\}$$

$$a) |x+1| - |x+3| = 0 \rightarrow |x+1| = |x+3| \xrightarrow{x^2} x^2 + 2x + 1 = x^2 + 6x + 9$$

$$\rightarrow x^2 - 2x - 8 = 0 \xrightarrow{\text{نوسه}} (x-4)(x+2) = 0 \rightarrow x = \frac{4}{1} \text{ و } \frac{-2}{1} \rightarrow D_f = \mathbb{R} - \left\{ 4, -2 \right\}$$

$$b) |x+1| - |x+3| > 0 \rightarrow |x+1| > |x+3| \xrightarrow{x^2} x^2 + 2x + 1 > x^2 + 6x + 9$$

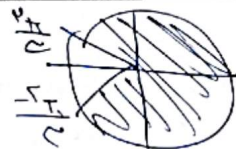
$$x^2 - 2x - 8 > 0 \quad \frac{-\frac{1}{2}}{+\frac{1}{2}} \quad \frac{1}{-1} \rightarrow D_f = (-\infty, -\frac{1}{2}] \cup [1, \infty)$$

$$x-1 > 0 \Rightarrow x > \frac{1}{1}$$

$$\lim_{x \rightarrow 0} x-1 > 0 \Rightarrow x-1 > 0 \rightarrow x > 1$$

$$\lim_{x \rightarrow \frac{1}{1}} \lim_{x \rightarrow 0} (x-1) > 0 \Rightarrow x-1 > 0 \rightarrow x < 1 \rightarrow D_f = (1, \infty)$$

$$2 \cos(x+1) > 0 \rightarrow D_f = (2k\pi - \frac{\pi}{2}, 2k\pi + \frac{\pi}{2})$$



$$\frac{x-1}{x+1} > 0 \Rightarrow x > 1, x < -1 \rightarrow (-\infty, -1) \cup (1, \infty)$$

$$\lim_{x \rightarrow 1} \frac{x-1}{x+1} > 0 \Rightarrow \frac{x-1}{x+1} > 1 \rightarrow \lim_{x \rightarrow 1} \frac{x-1}{x+1} + \frac{-1}{1} \rightarrow D_f = (-\infty, -1)$$