

19, 175 آفرین خوب نوشته!

Subject

Date

هوشی مقصود

$$|x-2| - 3 > 0 \rightarrow |x-2| > 3$$

$$x-2 > 3 \vee x-2 < -3$$

$$x > 5 \vee x < -1 \quad D_f = (-\infty, -1] \cup [5, +\infty)$$

$$f - |2-x| > 0 \quad |2-x| < f$$

$$|2-x| = |x-2|$$

$$-f \leq x-2 \leq f \rightarrow -1 \leq x \leq 4 \quad D_f = [-1, 4]$$

$$1 - x|x| > 0 \rightarrow x|x| < 1$$

$$x > 0 \rightarrow x^2 < 1 \rightarrow 0 < x < 1$$

$$x < 0 \rightarrow x^2 < 1 \rightarrow x^2 > -1$$

$$(x < 0) \rightarrow D_f = (-\infty, 0]$$

$$3 - |x-5| > 0$$

$$|x-5| < 3$$

$$\sqrt{3 - |x-5|} - 1 \neq 0$$

$$|x-5| \neq 2 \quad x \neq 3 \vee x \neq 7$$

$$\cos x \neq 0$$

$$D_f = \mathbb{R} - \left\{ k\pi + \frac{\pi}{2} \mid k \in \mathbb{Z} \right\}$$

$$1 - \cos x - 1 \neq 0 \rightarrow \cos x \neq 1$$

$$\cos x = \cos \frac{\pi}{2} \rightarrow x = 2k\pi \pm \frac{\pi}{2}$$

$$D_f = \mathbb{R} - \left[2k\pi \pm \frac{\pi}{2} \mid k \in \mathbb{Z} \right]$$

$$|2x+1| - |x+3| \neq 0 \quad |2x+1| \neq |x+3|$$

$$(2x+1)^2 \neq (x+3)^2$$

$$(2x+1 - x-3)(2x+1 + x+3) \neq 0$$

$$(x-2)(3x+4) \neq 0 \quad x \neq 2$$

$$D_f = \mathbb{R} - \left\{ \frac{2}{3}, 2 \right\}$$

NOTEBOOK

(1) شرط وجود در این معادله در این صورت است

$$(a-1)x^2 + ax + b = 0$$

$$a-1=0 \quad a=1$$

$$x^2 + b = 0 \quad x = -\frac{b}{2} \quad b = -4$$

$$x^2 + 2x + (1-m^2) > 0 \quad a=1 > 0 \quad \text{فصل } x^2 \text{ است}$$

$$\Delta = b^2 - 4ac < 0$$

$$4 - 4(1)(1-m^2) < 0$$

$$4 - 4 + 4m^2 < 0 \rightarrow 4m^2 - 4 < 0$$

مستند مقدار m
کمترین مقدار m
جواب

$$4 - x^2 > 0 \rightarrow x^2 < 4 \rightarrow -2 < x$$

(3) x صحیح باشد

$$\{-2, -1, 0, 1, 2\}$$

$$[x] + [-x] = \begin{bmatrix} 0 & x \in \mathbb{Z} \\ -1 & x \in \mathbb{Z} \end{bmatrix} \rightarrow [x] + [-x] + 1 = 0 + 1 = 1$$

$$= -1 + 1 = 0$$

x غیر صحیح باشد

$$[-2, 2] \text{ صحیح} \rightarrow P_f = [-2, -1, 0, 1, 2]$$

$$x^3 + 3x^2 > 0 \quad x^2(x+3) > 0 \quad x^2 > 0$$

$$x+3 > 0 \rightarrow x > -3$$

$$x \neq 0$$

(الف)

$$P_f = [-3, +\infty)$$

بیا

$$(x-1)(x+1) \cdot x^2(x-1) > 0$$

(ب) شرط نخرج $x \neq 1$

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

$$x^3 - 1 \neq 0$$

رابطه

رابطه ها $x \neq 1$ و $x \neq \omega$ و $x \neq \omega^2$

NOTEBOOK

$$D_f = \{1, 0, -1, 2, 3, \dots\} \quad P_f = [-3, +\infty) \cup \{0\} \cup [-1, +\infty)$$

به ازای $x=0$ عبارت برابر است پس در دامنه است!

$$|2x+1| - |x+3| > 0$$

$$|2x+1| > |x+3|$$

$$(2x+1)^2 - (x+3)^2 > 0$$

$$(x-2)(3x+4) > 0 \quad x=1 \quad x = -\frac{4}{3} \quad \text{و } x = -\frac{4}{3}$$

$$D_f = (-\infty, -\frac{4}{3}] \cup [2, +\infty)$$

$$2x-1 > 0 \Rightarrow 2x > 1 \Rightarrow x > \frac{1}{2}$$

$$\log_a(2x-1) > 0 \quad 2x-1 > 1 \quad 2x > 2 \quad x > 1$$

$$\log_a(\log_a(2x-1)) > 0 \quad 0 < \log_a(2x-1) < 1$$

$$2x-1 \leq a^1 \quad 2x \leq 2 \quad x \leq 1 \quad D_f = (1, 2)$$

$$2 \cos x + 1 > 0 \Rightarrow \cos x > -\frac{1}{2}$$

$$\cos x = -\frac{1}{2} \Rightarrow [0, 2\pi) \rightarrow \frac{2\pi}{3}, \frac{4\pi}{3}, -$$

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

$$\frac{x-1}{x+1} > 0 \quad x \in (-\infty, -1) \cup (1, +\infty)$$

$$\log\left(\frac{x-1}{x+1}\right) > 0 \Rightarrow \frac{x-1}{x+1} > 1$$

$$\frac{x-1}{x+1} - 1 > 0 \Rightarrow \frac{x-1 - (x+1)}{x+1} > 0$$

$$x+1 < 0 \Rightarrow x < -1 \quad D_f = (-\infty, -1)$$

$$\begin{aligned}
 \text{جـ ٢-} \quad & \frac{(n^2-1)(n^2-n^2)}{(n^2-1)} \geq 0 \rightarrow \frac{(n-1)(n+1)(n^2)(n-1)}{(n-1)(n^2+n+1)} \geq 0 \\
 D_f = & (-\infty, -1] \cup \{0\} \cup [3, +\infty)
 \end{aligned}$$

