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املا فیروزی

۱. چون کجای ثابت است پس بفید x^2 و x داشته باشیم.

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$$\rightarrow x^2 + 2x + 1 + 9x^2 - 4x + 1 + mx^2 + nx + mn$$

$$I. 10x^2 = mx^2 \rightarrow m = 10$$

$$II. -4x = nx \rightarrow n = -4$$

$$(f, m) = (f, p+1) \rightarrow p+1 = 10 \rightarrow p = 9$$

$$(9, -1) = (-9, p+k) \rightarrow p+k = -1 \rightarrow -1+1 = 0 \rightarrow k = 0$$

$$p+k$$

$$m+n+p+k \rightarrow 10-4+9+0 = 15$$

$$y = \sqrt{\frac{x-2}{2x^2-2x-1}}$$

$$x \neq 2$$

$$x^2 st \rightarrow x^2 - 2x - 1 = 0 \rightarrow (x-2)(x+1) = 0$$

$$x^2 \rightarrow x = 2 \text{ or } x = -1$$

$$x = 2$$

$$-\frac{2}{0} + \frac{1}{0} \rightarrow D = (2, 2) \cup (-1, -1)$$

$$f(x) = \frac{x^2+1}{x-2}$$

$$x-2 \in [-2] \rightarrow x-2 \in [-2] \neq 0 \rightarrow x \neq 2$$

$$[-2] \neq 2 \rightarrow 2 \leq -2 < 3 \sim -3 < 2 \leq 2$$

$$D_f = \mathbb{R} - (-3, 2]$$

آپلا فیرونی

الف) $f(x) = \frac{\sqrt{x(x^2-1)}}{\sqrt{|x|+x}}$ $\rightarrow x(x^2-1) \geq 0$ ب. ۲

$x(x+1)(x-1) \geq 0$

$|x|+x > 0 \rightarrow$ $\begin{array}{c} 0 \quad 0 \quad 1 \\ - \quad + \quad - \end{array}$ $\rightarrow x > 0$

$\rightarrow [-1, 0] \cup [1, +\infty)$

$D_f \supset [1, +\infty)$ ✓

ب) $f(x) = \frac{\sqrt{|x-2|-x^2}}{|x|-1}$ $\rightarrow x \neq \pm 1$

$\begin{array}{c} -2 \quad 1 \\ - \quad + \quad - \end{array} \rightarrow [-2, 1]$

$\begin{array}{c} -2 \quad 1 \\ - \quad + \quad - \end{array} \rightarrow [-2, 1]$

$\begin{array}{c} -2 \quad 1 \\ - \quad + \quad - \end{array} \rightarrow [-2, 1]$

$D_f \supset [-2, 1] - \{-1, 1\}$ ✓

ج) $\frac{1}{|x-2|-1} = k \neq 0 \rightarrow |x-2|-1 = k$ ۲

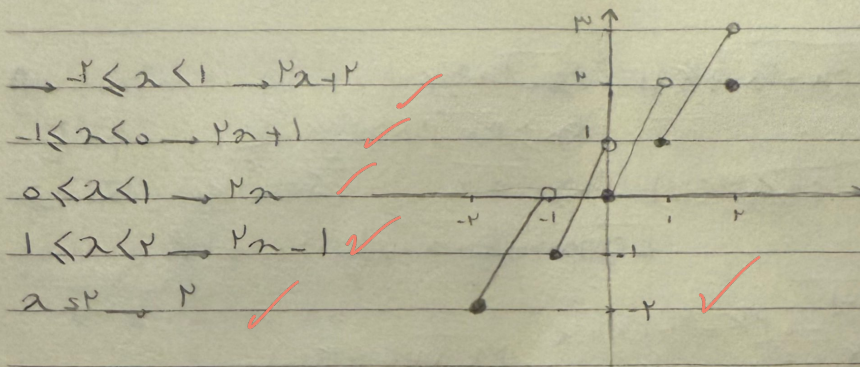
$|x-2| = k+1 \rightarrow x-2 = k+1 \rightarrow x = k+3$

$|x-2| = k+1 \rightarrow x-2 = -(k+1) \rightarrow x = 1-k$

برای اینکه ۲۱ صواب باشد باید اینها را به صورت ۲۱ بنویسیم.

I) $k+1 > 0 \rightarrow k > -1$ ✓

II) $1-k > 0 \rightarrow k < 1$ ✓



$$\frac{x^p - f(x) + p}{x+a} + b \leq x \rightarrow \frac{x^p - f(x) + p}{x+a}, b - x \leq 0 \quad .4$$

$$\frac{x^p - f(x) + p + b x + b a - x^p - x a}{x+a} \leq 0$$

$$\begin{aligned} -f(x) + p + b x + b a - x a &\leq 0 \rightarrow b a - x^p \\ \rightarrow b x - x a &\leq -f(x) \rightarrow x(b-a) \leq -f(x) \\ b-a &\leq -f(x) \rightarrow \boxed{a-b \leq f} \end{aligned}$$

$$\text{if } x \leq 0 \rightarrow \frac{x^p + p x^p - x^p}{x^p - 1} \leq x + c \rightarrow p \leq x + c \rightarrow \boxed{c \leq p} \quad .V$$

$$\text{if } x \leq 1 \rightarrow \frac{a + x^p}{1+b} \leq p \rightarrow a + x^p \leq p + b \rightarrow p b - a \leq 1$$

$$\text{if } x \leq -1 \rightarrow \frac{-a + x^p}{-1+b} \leq 1 \rightarrow -a + x^p \leq -1 + b \rightarrow b + a \leq p$$

$$b + c \leq p + \frac{1}{p} \rightarrow \boxed{\frac{0}{p}}$$

ایکلا فردی

$$f(n) = \sqrt{cn - pa} + k - 1 - (a - pa) \geq 0$$

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$$cn - pa \geq 0 \rightarrow cn \geq pa \rightarrow n \geq \frac{pa}{c} + 1 \rightarrow a \geq \frac{c}{p}$$

$$g(n) = \sqrt{b - cn} + pk - b - cn \geq 0$$

چون مقدار داخل رادیکال منفی نشود

$$b - cn \geq 0 \rightarrow b \geq cn \rightarrow \frac{b}{c} \geq n \rightarrow b \leq c$$

$$f(k) \leq k - 1$$

$$g(l) \leq pk \rightarrow pk - p - pk \leq k$$

$$-k - p \leq k \rightarrow pk \leq -p \rightarrow k \leq -1$$

$$pa - \frac{b}{p} \leq k \leq c - p - (1) \cdot \boxed{p}$$

$$f(n) = \sqrt{m - n} + n \quad f \times g \sqrt{m - n + n} (pn - p) \quad msv \rightarrow D_{\text{set}}(-a, v]$$

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$$g(n) = \sqrt{pn + p} \rightarrow pn + p \geq 0 \rightarrow pn \geq -p \rightarrow n \geq -1 \quad D_{\text{set}}[-1, v]$$

$$f(p) = \sqrt{v - p} + n \rightarrow p + n$$

$$D_{\text{set}}[-1, a)$$

msv

$$g(p) = \sqrt{4 + p} \leq \sqrt{A} \leq p \sqrt{p}$$

$$f(p) = g(p) = 4 \sqrt{p}$$

$$p + n - p \sqrt{p} \leq 4 \sqrt{p} \rightarrow p + n \leq 4 \sqrt{p} + p \sqrt{p}$$

$$m + n \leq 4 \sqrt{p} + p \sqrt{p} \rightarrow \boxed{p \sqrt{p} + 0}$$

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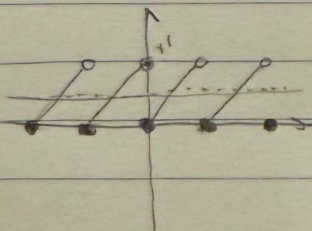
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ایملا منورونینا

$$y = (-1)^n (x - [x]) \cdot \frac{1}{n} \rightarrow x - [x] \cdot \frac{1}{n}$$

-10

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جواب