

نام و نام خانوادگی آبیلا بریسر پاسخنامه تشریحی تکلیف شماره ... کلاس ... زباندهم ...

$$f(x) = (x+1)^2 + (3x-1)^2 + mx^2 + nx + mn \rightarrow f(x) = \underbrace{(1+m)}_{m=-1} x^2 + \underbrace{(n-4)}_{n=4} x + mn + 2 \rightarrow f(x) = -3x$$

$$g(x) = \{(\underbrace{t}_{t=-1}, \underbrace{m}_{m=-11}) (\underbrace{n}_{n=4}, \underbrace{p+1}_{p+1=-1}) (\underbrace{p+2}_{p+2=-11}, -1) (-9, \underbrace{p+k}_{p+k=10})\} \rightarrow g(x) = \{(2, -10) (2, -10) (-9, -1) (-9, \underbrace{k-11}_{k-11=-1})\}$$

$$\Rightarrow m+n+p+k = -10 + 4 + (-11) + 10 = -7$$

الف) $y = \sqrt{\frac{x-2}{x^2-2x^2-1}} \Rightarrow \frac{x-2}{x^2-2x^2-1} \geq 0 \Rightarrow \frac{x-2}{(x-2)(x+2)(x^2+2)} \geq 0 \Rightarrow \frac{-2}{\frac{1}{0} + \frac{1}{0} + \frac{1}{0}} \Rightarrow D = (-2, +\infty) - \{2\}$

ب) $f(x) = \frac{2x^2+1}{x^2-2[-x]} \Rightarrow t-2[-x] \neq 0 \Rightarrow [-x] \neq 2 \rightarrow D_f = \mathbb{R} - (-2, -2]$

الف) $f(x) = \frac{\sqrt{x(x^2-1)}}{\sqrt{|x|+x}} \Rightarrow x(x^2-1) \geq 0 \Rightarrow \frac{-1}{\frac{1}{0} + \frac{1}{0} + \frac{1}{0}} \rightarrow [-1, 0] \cup [1, +\infty) \text{ (I)}$

$|x|+x > 0 \rightarrow x > 0 \text{ (II)} \xrightarrow{\text{I, II}} D_f = [1, +\infty)$

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

$|x-2|-x^2 \geq 0 \xrightarrow{x>2} x-2-x^2 \geq 0 \Rightarrow \frac{-2}{\frac{1}{0} + \frac{1}{0} + \frac{1}{0}} \xrightarrow{\text{I, II}} D_f = [-2, 1)$

$|x-2|-x^2 \geq 0 \xrightarrow{x<2} -x^2 \geq 0 \Rightarrow \frac{-2}{\frac{1}{0} + \frac{1}{0} + \frac{1}{0}} \xrightarrow{\text{I, II}} D_f = [-2, 1]$

$y = \frac{1}{||x-2|-1|-k} \Rightarrow ||x-2|-1| \neq k \rightarrow |x-2|-1 \neq \pm k \rightarrow |x-2| \neq k+1 \rightarrow |x-2| \neq 1-k$

$\left. \begin{array}{l} x-2 \neq k+1 \Rightarrow x \neq k+3 \\ x-2 \neq -k-1 \Rightarrow x \neq 1-k \\ x-2 \neq 1-k \Rightarrow x \neq 3-k \\ x-2 \neq k-1 \Rightarrow x \neq 1+k \end{array} \right\} \begin{array}{l} \text{همه عدد صحیح هستند} \\ \text{در دامنه باشند} \end{array} \Rightarrow k=1$

$\begin{array}{l} \text{ک} \text{ نمی تواند صفر باشد زیرا} \\ \text{در این صورت ی به جای ۰} \\ \text{رسمی، ۰، ۱، ۲، ۳، ۴، ۵، ۶، ۷، ۸، ۹} \end{array}$

$\begin{array}{l} \text{ک} \text{ نمی تواند ۱ باشد} \\ \text{زیرا جواب قدر مطلق} \\ \text{همیشه مثبت است} \end{array}$

$\begin{array}{l} 3-k=k+1 \\ 2k=2 \\ k=1 \end{array}$

$y = 2x - [x]$

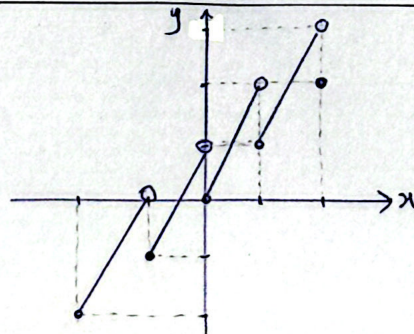
$-2 \leq x < -1 \Rightarrow [x] = -2 \Rightarrow y = 2x + 2$

$-1 \leq x < 0 \Rightarrow [x] = -1 \Rightarrow y = 2x + 1$

$0 \leq x < 1 \Rightarrow [x] = 0 \Rightarrow y = 2x$

$1 \leq x < 2 \Rightarrow [x] = 1 \Rightarrow y = 2x - 1$

$x = 2 \rightarrow y = 2$



$$f(x) = \frac{x^r - \varepsilon x + r}{x+a} + b = x \quad \frac{(x-r)(x-1)}{x+a} = x-b \rightarrow (x-r)(x-1) = (x-b)(x+a)$$

$$x^r - \varepsilon x + r = x^r + (a-b)x - ab$$

$$ab = -r$$

$$\boxed{a-b = -r}$$

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$$f(x) = \begin{cases} \frac{x^r + rx^r - x - r}{x^r - 1} & : x \neq \pm 1 \\ \frac{ax+r}{x+b} & : x = \pm 1 \end{cases} \quad g(x) = x+c$$

$$f(0) = g(0) \quad \frac{-r}{-1} = 0 + c \rightarrow \boxed{c = r}$$

$$f(1) = g(1) \quad \frac{a+r}{1+b} = r \quad f(-1) = g(-1) \quad \frac{-a+r}{-1+b} = 1$$

$$\begin{cases} rb - a = -1 \\ b + a = r \end{cases} \quad b + c = -\frac{1}{r} + r = \boxed{\frac{r^2 - 1}{r}}$$

$$rb - a = -1 \quad a + b = r \quad fb = -r \quad \boxed{b = -\frac{1}{r}}$$

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$$f(x) = \sqrt{\varepsilon x - r_a} + k - 1 \quad g(x) = \sqrt{b - \varepsilon x} + rk \quad D_{f \cap g} = \{1\} \rightarrow \frac{b}{\varepsilon} = \frac{r_a}{\varepsilon} = 1$$

$$D_f \Rightarrow \varepsilon x - r_a \geq 0 \quad x \geq \frac{r_a}{\varepsilon}$$

$$D_g \Rightarrow b - \varepsilon x \geq 0 \quad x \leq \frac{b}{\varepsilon}$$

$$\boxed{b = \varepsilon} \quad \boxed{a = \frac{\varepsilon}{r}}$$

$$rf - g(1) = k \rightarrow rf(1) - g(1) = k$$

$$r(0 + k - 1) - (0 + rk) = k \quad ra - \frac{b}{r} - k = r\left(\frac{\varepsilon}{r}\right) - \frac{\varepsilon}{r} - (-1)$$

$$rk - r - rk = k \quad rk = -r \quad \boxed{k = -1} \quad = \varepsilon - r + 1 = \boxed{r}$$

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$$f(x) = \sqrt{m-x} + n \quad g(x) = \sqrt{rx+r} \quad D_{f \cap g} = [-1, V]$$

$$m-x \geq 0 \quad x \leq m$$

$$rx+r \geq 0 \quad x \geq -1 \rightarrow [-1, V] = [-1, m] \rightarrow \boxed{m = V}$$

$$f(r) - g(r) = 4\sqrt{r}$$

$$\sqrt{r} + n - r\sqrt{r} = 4\sqrt{r} \quad \boxed{n = 3\sqrt{r} - r}$$

$$m+n = V + 3\sqrt{r} - r = \boxed{a + 3\sqrt{r}}$$

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$$y = (-1)^r (x - [x]) = \frac{1}{r} \quad y = (x - [x])$$

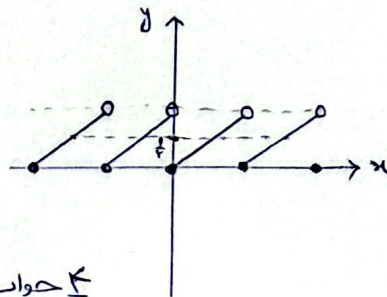
$$-r \leq x < -1 \quad [x] = -r \rightarrow y = x + r$$

$$-1 \leq x < 0 \quad [x] = -1 \rightarrow y = x + 1$$

$$0 \leq x < 1 \quad [x] = 0 \rightarrow y = x$$

$$1 \leq x < r \quad [x] = 1 \rightarrow y = x - 1$$

$$x = r \rightarrow y = 0$$



جواب داره

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