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موضوع

$$f(x) = \sqrt{x \cdot f(x)}$$

$$x \cdot f(x) > 0 \Rightarrow f(x) > 0$$

$$f(x) > 0 \Rightarrow x > 0$$

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داده (۱) که مقدار از:

بسیار است و مقدار از:

$$x = 0, x = 2, x = -5$$

$$f(x) > 0 \Rightarrow x = -5$$

$$f(x) > 0 \Rightarrow x = -5$$

$$f(x) > 0 \Rightarrow x = -5$$

$$1 \quad f(x) > 0 : [-2, -\infty] \text{ از این } \Rightarrow x >$$

$$2 \quad f(x) < 0 : (-\infty, 0) \text{ از این } \Rightarrow \checkmark \text{ قبل } \Rightarrow \frac{1}{x} < 0$$

$$4 \quad -\infty < x < 0$$

$$6 \quad 2. \quad f(x) > 0 \text{ و } x < 0 \text{ جواب}$$

$$8 \quad x > 0 \Rightarrow f(x) < 0 : (0, 2) \text{ از این}$$

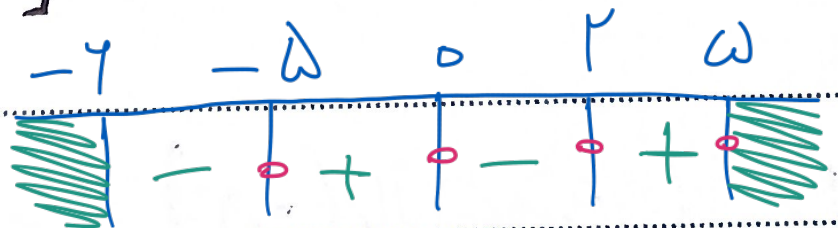
$$10 \quad \checkmark \text{ قبل } \Rightarrow f(x) > 0 : [2, \infty] \text{ از این : } x > 0 \text{ و } \frac{1}{x} > 0$$

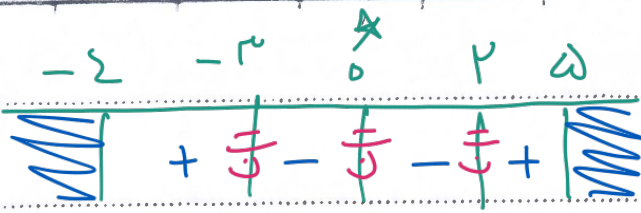
$$12 \quad 3. \quad \checkmark \text{ که } \Rightarrow 0, f(0) = 0 \text{ داریم : } x = 0 \text{ جواب}$$

$$13 \quad \text{از این } \Rightarrow D = [-\infty, 0] \cup [2, \infty]$$

دسته است یعنی علامت نمی

$$16 \quad \text{جواب } \Rightarrow [-\infty, 0] \cup [2, \infty]$$





مسئله ۲

$$2 \cdot \sqrt{\frac{-x}{f(x)}}$$

$$\frac{-x}{f(x)} \geq 0 \quad D_{y_2}(-2, 2) = \left\{ \frac{1}{2}, 1 \right\}$$

$$f(x) \geq 0 \text{ و } x \geq 0 \Rightarrow -x \geq 0 \quad \text{اگر}$$

$$f(x) \leq 0 \text{ و } x \geq 0 \Rightarrow -x \leq 0 \quad \text{اگر}$$

$$f(x) \neq 0 \quad \text{میشود}$$

$$f(x) \geq 0 \text{ و } x \geq 0 \quad \text{اگر}$$

از خط ۳ تا ۶ تابع منفی است

۳ تا ۶

$$3 \leq x \leq 6$$

$$f(x) \geq 0 \text{ و } x \geq 0 \quad \text{اگر}$$

از خط ۲ تا ۳ تابع منفی است

$$x \in [2, 3]$$

$$D = (-3, 0) \cup (0, 2)$$

مجموعه جوابها:

$$(-3, 0) \cup (0, 2) \quad \text{و} \quad (-1, 2)$$

$$(-1, 2) \quad \text{و} \quad (0, 2)$$

مجموعه ۳ عدد صحیح است

سوال سوم

(1)

$$P(-2) = (-2)^2 - 2(-2) + 2 = 4 + 4 + 2 = 10$$

$$f(-2) = 10$$

$$f(r) - 2f(r) = 2 \rightarrow f(r) = -2$$

$$f(n) = n^2 - 2n \rightarrow f(-2) = (-2)^2 - 2(-2) = 10$$

(1, 8)

سوال دوم

$$f(x-1) = a(x-1)^2 - b(x-1) + c = a(x^2 - 2x + 1) - bx + b + c$$

$$f(x-1) = ax^2 - 2ax + a - bx + b + c$$

$$f(x-1) - f(x) = (ax^2 - 2ax + a - bx + b + c) - (ax^2 - bx + c)$$

$$\Rightarrow f(x-1) - f(x) = (-2ax + a + b)$$

$$-2ax + (a+b) = 4x + 4 \quad \text{صورت سوال را با دقت بخوان}$$

$$-2a = 4 \Rightarrow a = -2$$

$$a+b=2$$

$$b=4$$

$$a+b=0 \Rightarrow +b = -a = 2$$

$$a-b = -2 - 2 = -4$$

$$a-b = -2 - 2 = -4 \Rightarrow a-b = -4$$

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$$f(x) = \begin{cases} x - \sqrt{x+1} & x \geq 1 \\ x+1 & x < 1 \end{cases}$$

$$f(1) = 1(1) + 1 = 2$$

$$f(0) = 0 - \sqrt{0+1} = -1 \quad f(0) = 0 - \sqrt{0+2} = -\sqrt{2} \quad (2)$$

$$f(f(1)) = f(2) = 2 - \sqrt{2}$$

$$f(x) = x(1) + 1 \quad \rightarrow \quad x+1 < 9$$

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$$f(f(0)) + f(f(1)) = f(-1) + (2 - \sqrt{2})$$

$$f(2 - \sqrt{2}) = (2 - \sqrt{2}) - \sqrt{2 - \sqrt{2} + 1} = 1 - \sqrt{2} - \sqrt{3 - \sqrt{2}}$$

محل
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سوال نمبر ۲

$$t^r = (\sqrt{r} - r)^r = r - r\sqrt{r} + r = 2 - r\sqrt{r}$$

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$$t^r + r t^r \omega = (2 - r\sqrt{r}) + r(\sqrt{r} - r) + \omega$$

$$2 - r\sqrt{r} + r\sqrt{r} - 1 + \omega = (2 - 1 + \omega) + (-r\sqrt{r} + r\sqrt{r})$$

$$t^r + r t^r \omega = (t^r + r t^r \omega) + r = r + r = 4$$

$$f(t) = \frac{r}{4} = \frac{r}{r}$$

$$f(\sqrt{r} - r) = \frac{r}{r}$$

$$\frac{x^2 + 1}{x^2} = x^2 \cdot \frac{1}{x^2}$$

صدق سوال را درست بنویس!

سوال صحیح

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

$$f\left(\frac{x-1}{x}\right), f(-3)$$

الف) $t = \frac{x-1}{x} = 1 - \frac{1}{x}$ ملاحظه

$$f(t) = \frac{t^2 + 1}{t^2 + t} \quad f\left(x - \frac{1}{x}\right) = \left(x - \frac{1}{x}\right)^2 + 2 = x^2 + \frac{1}{x^2} - 2 + 2$$

$$f(x) = \frac{x^2 + 1}{x^2 + x} \rightarrow f(-3) = \frac{(-3)^2 + 1}{(-3)^2 + (-3)} = 11$$

ب) $x = -3$

$$\frac{f(-3) = \frac{(-3)^2 + 1}{(-3)^2 + (-3)}}{(-3)^2 + (-3)} = \frac{9+1}{9-3} = \frac{10}{6} = \frac{5}{3}$$

سید حسام

از این $\{x, y\} \Rightarrow -\frac{3}{2} \leq x \leq \frac{3}{2}$ و $y = \sqrt{9 - x^2}$ (نقطه)

۲.

$$L(2) = \sqrt{9 - 2^2} = \sqrt{5}$$

$$L(1) = \sqrt{9 - 1^2} = \sqrt{8} = 2\sqrt{2}$$

$$L(0) = \sqrt{9 - 0} = \sqrt{9} = 3$$

$$L(x) = \text{نقطه}$$

$$L = \frac{1}{g}$$

$$x = 2 : \frac{0}{\sqrt{5}} = 0$$

$$x = 1 : \frac{-2}{(2\sqrt{2})} = -\frac{1}{\sqrt{2}}$$

$$x = 0 : \frac{2}{3}$$

$$L = \frac{1}{g}$$

$$x = 2 : \frac{0}{\sqrt{5}} = 0$$

$$x = 1 : \frac{-(2\sqrt{2})}{2} = -\sqrt{2}$$

$$x = 0 : \frac{2}{3}$$

$$L = \frac{1}{g} = \left\{ \left(\frac{1}{\sqrt{5}}, 0 \right), \left(0, \frac{2}{3} \right) \right\}$$

سؤال خام

$$\text{الف) } 2f(x) = \{(\underline{2,2}) / (\underline{3,1}) / (-\underline{2,4}) / (\underline{1,2} - \underline{4})\}$$

$$\text{ب) } f(x) + 1 = \{(\underline{2,2}) / (\underline{3,5}) / (-\underline{2,3}) / (\underline{1,2} - \underline{1})\}$$

$$\text{ج) } 3f^2(x) + 1$$

$$f(2) = 1 \Rightarrow 3(1^2) + 1 = 4x = 2 \text{ ص}$$

$$f(3) = 4 \Rightarrow 3(14) + 1 = 44x = 3 \text{ ص}$$

$$f(-2) = 2 \Rightarrow 3(4) + 1 = 13x = -2 \text{ ص}$$

$$f(1) = -2 \Rightarrow 3(4) + 1 = 13x = 1 \text{ ص}$$

$$\text{ج) } 3f(x) + 1 = \{(\underline{2,2}) / (\underline{3,5}) / (-\underline{2,3}) / (\underline{1,2} - \underline{1})\}$$

$$\text{د) } f(2x) = \{(\underline{1,1}) / (\underline{3,4}) / (-\underline{2,4}) / (\underline{1,2} - \underline{2})\}$$

حل جبر

$$\text{اگر } a = 1 \text{ و } f(1) = 1 \Rightarrow f(1) = 1 \Rightarrow f(1) = 1$$

$$\left(\frac{3}{2}, 2\right) \rightarrow f(2) = 3 \Rightarrow f(2) = 3$$

$$\left(-\frac{1}{2}, 2\right) \rightarrow f(2) = -1 \Rightarrow f(2) = -1$$

$$\left(-\frac{1}{2}, -2\right) \rightarrow f(-2) = -1 \Rightarrow f(-2) = -1$$

مطلوبه

1, 0

f و g

$$a = 1 : f(1) = 1, g(1) = 0 \Rightarrow 1 = 0$$

$$a = 2 : f(2) = 3, g(2) = 1 \Rightarrow 3 = 1$$

$$a = 3 : f(3) = 1, g(3) = -1 \Rightarrow 1 = -1$$

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صورت سوال را با دقت بخوان!

$$n=1: f(1)=4, g(1)=1 \Rightarrow f(1) \neq g(1)$$

$$n=2: f(2)=3, g(2)=1 \Rightarrow f(2) \neq g(2)$$

$$n=3: f(3)=1, g(3)=-1 \Rightarrow f(3) \neq g(3)$$

$$f/g \Rightarrow \{(2, 4), (3, -1)\}$$