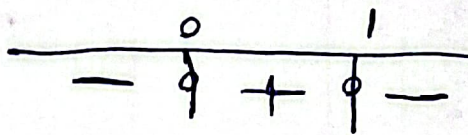


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* کسان چه نفری *

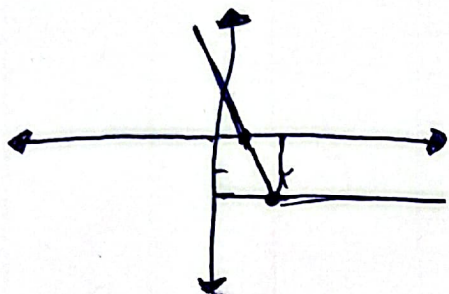
(۲)

① $\sqrt{x^{\frac{1}{2}} \left(\left(\frac{1}{x} \right)^{\frac{1}{2}} - 1 \right)}$



$D_f = [0, 1]$

② $\sqrt{-x + |x - 1|}$

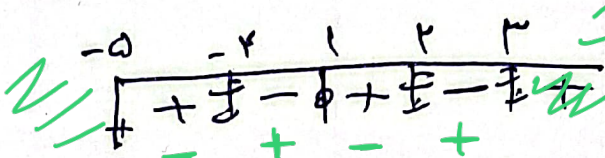


$\Rightarrow D_f = \mathbb{R}$

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پاسخ نه ...

③ $\sqrt{\frac{x-1}{(x+4)(x-2)(x-3)}}$



استبه تعیین علامت
بدی!

$D_f = [-4, -1) \cup [1, 2) \cup (3, +\infty)$

$D_f = (-4, 1] \cup (2, 3)$

①

④ $9x^4 - 4x^2 - 4x - 2 = 0 \Rightarrow x = \frac{1 - \sqrt{13}}{2}, \frac{\sqrt{13} + 1}{2}$

$\sqrt{\frac{1}{x}}$

پاسخ نه ...

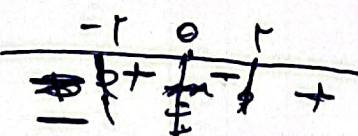
⑤ $\sqrt{x^3 + x - \frac{4x}{x^3} - \frac{1}{x}} = \sqrt{\left(x^3 - \frac{4}{x}\right) + \left(x - \frac{1}{x}\right)}$

④

$\Rightarrow \sqrt{\left(x - \frac{4}{x}\right) \left(x^2 + \frac{1}{x} + 1\right) + \left(x - \frac{1}{x}\right)} = \sqrt{\left(x - \frac{4}{x}\right) \left(x^2 + \frac{1}{x} + 1\right)}$

نشان دارد

$\Rightarrow \frac{x^2 - 4}{x} = 0 \Rightarrow x = \pm 2, x \neq 0$



$\Rightarrow D_f = [-2, 0) \cup [2, +\infty)$

⑥ $x^3 + x = 1 \Rightarrow x = 1$

$x^3 + x = 2 \Rightarrow x = 1$

②

$\sqrt{1} = 1$

$(1) x^2 - 2x + 1 + 1 = (x-1)^2 + 1 \Rightarrow 2 + 1 = 10$
 $x^2 + 4x + 4 + 2x + 2 - 2 = (x+2)^2 - 2 \Rightarrow 2 - 2 = -2$
 $\Rightarrow \frac{-2}{1} = -2 \checkmark$

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

$\Rightarrow a=0, b=2, c=-2 \Rightarrow \frac{2}{-2} = -1 \checkmark$

$(9) \frac{g}{f} = \left\{ (2, \frac{1}{2}), (1, \frac{0}{0}), (2, \frac{0}{0}), (0, \frac{0}{0}) \right\} \xrightarrow{\frac{f}{g} = 7} (1, 7.5)$

$(10) f(x) = \{(1, 2), (3, -1), (4, 2), (-1, 4)\}$
 $g(x) = \{(-2, 3), (1, -1), (2, 2), (-1, 0)\}$

$(11) f(x) = \{(\frac{1}{2}, 2), (\frac{3}{2}, -1), (\frac{4}{2}, 2), (-\frac{1}{2}, 4)\} \checkmark$

$(12) f(x^2) = \{(\sqrt{1}, 2), (\sqrt{9}, -1), (\sqrt{4}, 2), (\sqrt{1}, 4)\}$

$(13) 2g^2(x) + 1 = \{(\sqrt{2}, 9), (3, 3), (4, 9), (-1, 1)\} \checkmark$

$(14) \frac{f}{g} = \{(1, \frac{1}{2}), (3, \frac{2}{3})\} \checkmark$