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نام و نام خانوادگی ......هستی رمضانی...... پاسخنامه تشریحی تکلیف شماره .... کلاس ...یازدهم دختر

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

$y=\sqrt{x^3 f(x+1)} \to f(x+1)=(\frac{1}{2})^{x-1}-1$

$x^3(2^{1-x}-1)\geq 0$

$0 \leftarrow \quad \to 0 \to 1-x=0 \to x=1$

$D_y=[0,1]$

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$f(x)=\sqrt{x+|x+2|}$

$f(-x)=\sqrt{-x+|-x+2|}$

$-x-x+2 = -2x+2 \quad | \quad -x+x-2 = -2$ ✗

$-2x+2\geq 0$

$2\geq 2x \to 1\geq x$

$D_f=(-\infty,1]$

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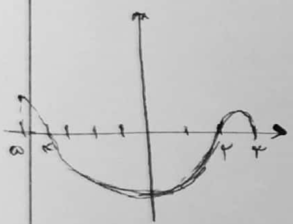

$y=\sqrt{x-1} \to +1$

$f(x) \to 2,3,-4$

$-4 \quad 1 \quad 2 \quad 3$

$- \quad + \quad - \quad + \quad -$

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

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$y=\frac{1}{9x^4-7x^2-4x-3} \to 9x^4-6x^2-x^2-4x-4+1$

$(9x^4-6x^2+1)-(x^2+4x+4)$

$(3x^2-1)^2-(x+2)^2 \to 3x^2-x-3=0$

$y=\frac{1}{3x^2+ax+b}$

$3x^2-x-3 = 3x^2+ax+b$

$a=-1,\ b=-3$

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

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$f(x)=x^3+x \qquad y=\sqrt{f(x)-f(\frac{4}{x})}$

$y=\sqrt{x^3+x-\frac{64}{x^3}-\frac{4}{x}} \to \sqrt{\frac{1}{x^3}(x^6-64)+\frac{1}{x}(x^2-4)}$

$(x^2-4)(x^4+16+4x^2)$

$\frac{1}{x}(x^2-4)(\frac{1}{x^2}(x^4+16+4x^2)+1)$

$\to y=\sqrt{\frac{1}{x}(x^2-4)(x^2+\frac{16}{x^2}+5)}$

$0,\ \pm 2$

$-2 \quad 0 \quad 2$

$- \quad + \quad - \quad +$

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

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

$f(2) + f(10) \rightarrow x^2+x=2 \rightarrow x=1 \rightarrow f(2) = 2-1 = 1$

$x^2+x=10 \rightarrow x=2 \rightarrow f(10) = 8-1 = 7$

$1+7=8$ ✓

$f(x) = x^3 - 9x^2 + 19x + 8 - 8$

$\rightarrow (x-3)^3 + 8$

$g(x) = x^3 + 9x^2 + 27x + 27 - 27$

$\rightarrow (x+3)^3 - 27$

$\frac{g(\sqrt[3]{7} - 3)}{f(\sqrt[3]{2} + 2)} = \frac{(\sqrt[3]{7} - 3 + 3)^3 - 27}{(\sqrt[3]{2} + 2 - 2)^3 + 8} = \frac{7-27}{2+8} = -2$ ✓

$f(x) = \sqrt{x + 4\sqrt{x-4}}$ $\rightarrow$ $x - 4 + 4\sqrt{x-4} + 4$

$(\sqrt{x-4} + 2)^2 \rightarrow \sqrt{(\sqrt{x-4}+2)^2}$

$g(x) = \sqrt{x - 4\sqrt{x-4}}$ $\rightarrow$ $\sqrt{x-4} - 2$ $\rightarrow \sqrt{x-4} + 2$

$f(x) + g(x) = a + b\sqrt{x+c}$ $\quad \sqrt{x-4} + 2 + \sqrt{x-4} - 2 = 2\sqrt{x-4}$

$a=0 \quad b=2 \quad c=-4$ $\quad \frac{0+2}{-4} = -\frac{1}{2}$ ✓

$f(x) = \frac{x+2}{x^2 - 4x + 4} \rightarrow D_f = \mathbb{R} - \{1, 4\}$

$g(x) = \{(2,1)(1,0)(3,a)(0,4)\}$

$\frac{g}{f} = \{(2, -\frac{1}{4})(0,4)\}$ ✓

$(2, \frac{1}{-4}) = (0, \frac{4}{a-3})$

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

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

$f(x^2) = \{(1,2)(-1,2)(\sqrt{3},-1)(-\sqrt{3},-1)(2,2)(-2,2)\}$

$\frac{2f}{g} = \{(1,4)(2,-1)\}$ $\quad 2g^2(x) + 1 = \{(-2,19)(1,3)(3,9)(-1,1)\}$ ✓