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نام و نام خانوادگی سببا (موضوع) پاسخنامه تشریحی تکلیف شماره (بی) ... کلاس گروه B ... یازدهم (مختار)

$F(x) = \left(\frac{1}{x}\right)^{x-2} - 1$ $D_f \Rightarrow y = \sqrt{x^3 \times F(x+1)}$ $D_f = [0, 9]$

$F(x+1) = \left(\frac{1}{x+1}\right)^{(x+1)-2} - 1 = \left(\frac{1}{x+1}\right)^{x-1} - 1$
 1) $x=1$ $\Rightarrow \left(\frac{1}{2}\right)^0 - 1 = 0$
 حاصل صفر $\Rightarrow 0$
 2) $0 < x < 1$ $\Rightarrow x^3 > 0$ حاصل صفر $\Rightarrow 0$
 3) $x=0$ حاصل صفر $\Rightarrow 0$

$F(x) = \sqrt{x+|x+2|}$ $F(-x) \leq D_f = [-1, 9]$
 $\sqrt{-x+|x+2|} = \sqrt{-x+|2-x|}$
 1) $-x+|2-x| \geq 0 \Rightarrow |2-x| \geq x$
 2) $-x+(x-2) \Rightarrow -2 \leq 0$
 3) $x > 2 \Rightarrow x \leq 2$

$-x+|2-x| \geq 0 \Rightarrow |2-x| \geq x$
 1) $x \leq 2$
 2) $x > 2 \Rightarrow -2x \geq -2 \Rightarrow x \leq 1$

$y = \sqrt{\frac{x-1}{f(x)}}$

$D_y = (-\infty, 9] \cup (2, 3)$

	-1	0	1	2	3
$x-1$	-	-	0	+	+
$f(x)$	+	0	-	-	0
y	-	0	+	0	+

$y_1 = \frac{1}{ax^2 - vx^2 - ex + v}$ $y_2 = \frac{1}{vx^2 + ax + b}$

$(vx^2 + x + 1)(vx^2 + x - 3)$

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

$vx^2 + ax + b = (vx^2 + x + 1)(vx^2 + x - 3)$

1) $a=b=1 \Rightarrow \sqrt{-2}$ 2) $a=1, b=-3 \Rightarrow \sqrt{-2}$

$\sqrt{\frac{(x^3+x)^2}{x^3+x} - \frac{5}{x^3+x}} \Rightarrow x^3 + x - \frac{5}{x} - \frac{5}{x} \Rightarrow x^4 + x^2 - 5x - 5 = 0$

$(x^2-5)(x^2+1+5x^2) + x^2(x^2-5) \Rightarrow (x^2-5)(x^2+1+5x^2)$

$x^2 \geq 5 \Rightarrow |x| \geq \sqrt{5} \Rightarrow 1) x \geq \sqrt{5}$
 2) $x \leq -\sqrt{5}$

$D_f = [-1, 9] \cup (2, +\infty)$

$$f(x) + f(1) = 1$$

$$(x+1) + (1-x)$$

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

$$x^3 + x = 10 \Rightarrow x = 10$$

$$x^2 - 1 \Rightarrow x = 1 \Rightarrow 1$$

$$x^2 - 1 \Rightarrow 1 = x \Rightarrow 1$$

$$\frac{g(\sqrt{x}-1)}{f(\sqrt{x}+1)} = \frac{-1}{10} = -\frac{1}{10}$$

$$\begin{aligned} & (\sqrt{x}+1)^3 - 4(\sqrt{x}+1)^2 + 12(\sqrt{x}+1) = \\ & x+1+4\sqrt{x}+4-4(x+2\sqrt{x}+1)+12\sqrt{x}+12 = \\ & x+1+4\sqrt{x}+4-4x-8\sqrt{x}-4+12\sqrt{x}+12 = \\ & -3x+12\sqrt{x}+13 \end{aligned}$$

$$f(x) + g(x) = a + b\sqrt{x+c}$$

$$x \geq c \quad f(x) = \sqrt{x+c}\sqrt{x-c}$$

$$\sqrt{x-c+4\sqrt{x-c}+4} + \sqrt{x-c-4\sqrt{x-c}+4}$$

$$g(x) = \sqrt{x-c}\sqrt{x-c}$$

$$\frac{a+b}{x+c} = \frac{-1}{x}$$

$$\frac{g}{f} = \left\{ (0, 4) (2, \frac{1}{2}) \right\}$$

$$f(2) = \frac{2+2}{(2)^2 - (2)(4) + 4} = -1$$

$$g(2) = (2, 1) \Rightarrow \frac{1}{-1}$$

$$g(x) \Rightarrow x \in \{0, 1, 2, 3\}$$

$$f(x) \Rightarrow x \notin \{0, 1, 2, 3\} \quad \Rightarrow D_f = \{0, 2\}$$

$$f(0) = \frac{0+2}{(0)^2 - 4(0) + 4} = \frac{2}{4}$$

$$g(0) = (0, 4) \Rightarrow \frac{4}{\frac{2}{4}} = 8$$

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

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

$$3) 2g^2(x) + 1 = \left\{ (-1, 14) (1, 14) (3, 4) (-1, 1) \right\}$$

$$4) \frac{f}{g} = \left\{ (1, -4) (3, -1) \right\}$$

$$10) \left\{ \begin{aligned} x^1 &= 1 \rightarrow x = \pm 1 \\ x^2 &= 1 \rightarrow x = \pm 1 \\ x^3 &= 1 \rightarrow x = \pm 1 \\ x^4 &= 1 \rightarrow x = \pm 1 \end{aligned} \right\} \rightarrow \left\{ (\pm 1, 2) (\pm \sqrt{3}, -1) (\pm 2, 2) \right\}$$