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نام و نام خانوادگی شماره کلاس پاسخنامه تشریحی تکلیف شماره

$$f(x) = \left(\frac{1}{x}\right)^{x-2} \quad \left(\frac{1}{x}\right)^{n-1} \rightarrow n=1 \quad D_f = [0, 1) \quad (1, 0)$$

$$y = \sqrt{x} f(x+1) \rightarrow f(x+1) = \left(\frac{1}{x+1}\right)^x = 1 \Rightarrow \left(\frac{1}{x+1}\right)^x = 1 \Rightarrow 2x^3 \left(\frac{1}{x}\right)^x \geq x^3 \rightarrow D_f = [1, \infty)$$

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

$$f(-x) = \sqrt{-x + |2-x|} \rightarrow |2-x| \geq x \rightarrow 2-x \geq x \rightarrow 2-x \leq x \rightarrow D_f = [0, \infty)$$

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

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

$$y_1 = \frac{1}{9x^2 - 7x^2 - 4x - 3} \rightarrow \frac{1}{9}b^2 - \frac{1}{9}b^2 - \frac{1}{3}b - 3 = \frac{1}{9}b^2 + \frac{1}{3}b + 3$$

$$y = \frac{1}{3x^2 + ax + b} \rightarrow \sqrt{(a+3)} \rightarrow \sqrt{1} \rightarrow 1$$

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

$$y = \sqrt{f(x) - f\left(\frac{x}{x}\right)} \rightarrow \left(x - \frac{x}{x}\right) \left(x^2 + \frac{14}{x} + 8\right) + \left(x - \frac{x}{x}\right)$$

$$D_f = [1, \infty) \cup (-1, 0)$$

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

$$\hookrightarrow \boxed{x=1} \rightarrow f(1) = 1$$

$$x(x^w + 1) \rightarrow \boxed{x=2} \rightarrow f(10) = 19$$

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$$f(1) + f(10) = 20$$

$$f(x) = x^w - 9x^w + 12x \rightarrow (x-2)^w - 4$$

$$g(x) = x^w + 9x^w + 24x \rightarrow (x+3)^w - 24$$

$$\frac{g(\sqrt{w} - 3)}{f(\sqrt{w} + 2)} = \frac{-20}{-4} = 5$$

1, 0

$$f(x) = \sqrt{x+5}\sqrt{x-5} \rightarrow \sqrt{x-5} + 2$$

$$g(x) = \sqrt{x-5}\sqrt{x-5} \rightarrow \sqrt{x-5} - 2$$

$$x \geq 5$$

$$\rightarrow 2\sqrt{x-5} \rightarrow \begin{cases} a=0 \\ b=2 \\ c=-5 \end{cases} \rightarrow \frac{a+b}{c} = \frac{2}{-5} = -\frac{2}{5}$$

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$$f(x) = \frac{x+2}{x^2-5x+6} \rightarrow \begin{cases} x \neq 1 \\ x \neq 3 \end{cases} \rightarrow \begin{cases} x=0 \rightarrow \frac{2}{6} \\ x=2 \rightarrow \frac{4}{-1} = -4 \end{cases}$$

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

$$f = \{(1,2)(2,-1)(3,2)(-6,4)\} \quad g(x+1) = \{(\sqrt{x+1}, -1)(\sqrt{x+1}, 2)\}$$

$$g = \{(-2,2)(1,-1)(\sqrt{2},2)(-1,0)\}$$

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

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

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

$$\rightarrow \{(1,-4)(3,-1)(-1,4)\}$$

$$10 \text{ ب. } \left\{ \begin{array}{l} a^r = 1 \rightarrow a = \pm 1 \\ a^r = r \rightarrow a = \pm r \\ a^r = r \rightarrow a = \pm r \\ a^r = -1 \rightarrow X \end{array} \right. \rightarrow \{(\pm 1, r)(\pm \sqrt{r}, -1)(\pm r, r)\}$$

$$10 \text{ ج. } \{(-r, 1)(1, r)(r, 1)(-1, 1)\}$$