

شماره تلفن: ۵

باز هم دختره

نام خانوادگی: سائز فاح ۱۹۱۹

سوال ۱

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

$$y = \sqrt{x^3} f(n+1) \Rightarrow \sqrt{x^3} \left(\frac{1}{x}\right)^{x-1} - 1$$

$$-\frac{1}{0} + \frac{1}{1} - \dots = \boxed{[0, 1]}$$

$$\frac{1}{x}^{x-1} - 1 = 0 \Rightarrow \frac{1}{x}^{x-1} = 1 \Rightarrow x-1=0 \Rightarrow x=1$$

سوال ۲

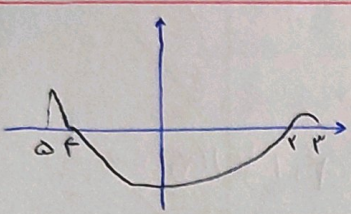
$$f(x) = \sqrt{x+|x+2|} \xrightarrow{f(-x)} \sqrt{-x+|2-x|} \xrightarrow{\text{ضابطه بنویس}} \begin{matrix} x+2 & | & -x-2+x=-2 \end{matrix} \Rightarrow x < 2$$

۵

$$x < 2 \Rightarrow \sqrt{2-x} \Rightarrow 2-x \geq 0 \Rightarrow x \leq 2 \Rightarrow (-\infty, 2]$$

منفی در
یادگیری تعریف
نمونه

سوال ۳



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

$$\frac{x-1}{f(x)} \geq 0$$

	-4	1	2	3
$\frac{x-1}{f(x)}$	-	0	+	+
$f(x)$	+	0	-	+
	+	-	+	+

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

۵

$$y_1 = \frac{1}{9x^2 - 4x^2 - 4x - 3}$$

$$y_2 = \frac{1}{x^2 + a + b} \Rightarrow D_{y_2} = \mathbb{R} \setminus \{ \text{مخرج} \}$$

$$\sqrt{-ca+b} = ?$$

$$9x^2 - 4x^2 - 4x - 3 = 9x^2 - 4x^2 + 1 - x^2 - 4x - 4 = (3x^2 - 1)^2 - (x+2)^2 = 0 \Rightarrow 3x^2 - 1 = x+2$$

$$\Rightarrow 3x^2 - x - 3 \Rightarrow a = -1, b = -3 \Rightarrow \sqrt{-(-1-3)} = \sqrt{4} = 2$$

۵

$$f(x) = x^3 + x$$

$$y = \sqrt{f(x) - f\left(\frac{x}{n}\right)}$$

سوال ۵

$$y = \sqrt{x^3 + x - \frac{9x}{n^3} - \frac{x}{n}} \xrightarrow{\text{ضابطه بنویس}} \sqrt{\frac{x^4 + x^2 - 9x - x}{n^3}} \Rightarrow \frac{x^4 - 4x^2 + x^2 - 4x}{n^3} \geq 0$$

۱,۵

$$x^4 + x^2 - 4x - 4 \geq 0 \xrightarrow{x=t} t^4 + t^2 - 4t - 4 \geq 0 \Rightarrow t(t-t) + (t-t)(t^2 + 4 + 4t) \geq 0$$

$$(t-t)(t^2 + 4t + 4) \geq 0 \Rightarrow -\frac{1}{t+2} \geq 0 \Rightarrow t \geq -2 \Rightarrow D_f = [-2, +\infty)$$

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

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

$$\begin{aligned} f(2) &\rightarrow x=1 \Rightarrow 2(1)^2 - 1 = 1 \\ f(1) &\rightarrow x=2 \Rightarrow 2(2)^2 - 1 = 7 \end{aligned} \Rightarrow f(x) + f(1-x) = 1 + 7 = 8$$

۵

$$f(x) = x^3 - 4x^2 + 12x, g(x) = x^3 + 9x^2 + 27x$$

$$\frac{g(\sqrt[3]{2}-3)}{f(\sqrt[3]{2}+2)}$$

سوال ۷

$$\Rightarrow \frac{(3\sqrt[3]{2}-x^3+3)^3 - 27}{(\sqrt[3]{2}+x^3)^3 + 1} = \frac{-20}{10} = -2$$

۵

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

$$x \geq 2 \Rightarrow f(x) + g(x) = a + b\sqrt{x+c}$$

$$\frac{a+b}{c} = ?$$

$$\sqrt{x-2} + \sqrt{x-2} = 2\sqrt{x-2}$$

$$\sqrt{x-2} - \sqrt{x-2} = 0$$

$$\begin{aligned} 2\sqrt{x-2} &\rightarrow a=0, b=2, c=-2 \\ 0 &\rightarrow a=0, b=0, c=0 \end{aligned}$$

$$\frac{0+2}{-2} = -1$$

۵

$$\frac{(a^r - r)(a^r + 2n^r + 14)}{a^r} \cdot Df = [-r, 0] \cup [r, \infty)$$

(5)

$$\frac{-\frac{r}{-1} + \frac{r}{-1}}{-1 + 1}$$

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

$$\frac{g}{f} = ?$$

سوال 19

$$f(x) = (2, -4), (0, \frac{4}{3})$$

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

5

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

سوال 10

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

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

3

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

$$2g^2(x) + 1 = \{(-2, 19), (1, 3), (3, 7), (-1, 1)\}$$

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