

شهریور

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سه شنبه

۲۳ صفر

TUE 20 SEP

الفابراهیم ازهم C

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

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

$$y = \sqrt{x^p f(x+1)}$$

$$x^p (p^{1-x} - 1) > 0 \quad p^{1-x} = 0$$

$$x = 0$$

$$\rightarrow p^{1-x} = 1$$

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

$$\frac{0}{a+b}$$

$$Dy = [-2, 1]$$

$$f(x) = \sqrt{x+1-x+p}$$

$$f(-x) = \sqrt{-x+1-x+p}$$

$$\rightarrow x=p$$

$$\frac{p}{x-x+p} \quad -2x+p$$

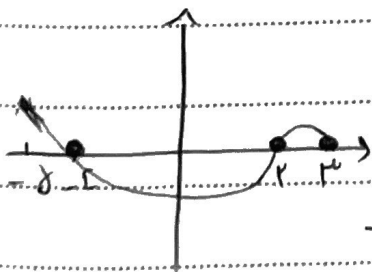
x زیر را بساز

$$-2x+p > 0$$

$$p(-x+1) > 0$$

$$x=1$$

$$Df = (-\infty, 1]$$



$$y = \sqrt{x-1} \rightarrow x=1$$

$$f(x) \rightarrow x=2, 3, -2$$

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

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

$$Dy_1 = Dy_2$$

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

$$y_2 = \frac{1}{kx^k + ax + b}$$

$$\frac{4x^k - 4x^k - 2x - k}{(4x^k - 4x^k + 1) - x^k - 2x - k} = \frac{(4x^k - 1)^k}{(kx^k - 1)^k} - (x + 2)^k$$

$$(kx^k - 1)^k - (x + 2)^k \neq 0 \rightarrow kx^k - 1 = x + 2$$

$$kx^k - x - k = 0$$

$$kx^k - x - k = kx^k + ax + b \rightarrow \sqrt{-(a+b)} = \sqrt{-(-1-k)} = \sqrt{k} = k$$

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

$$y = \sqrt{f(x) + f\left(\frac{x}{k}\right)}$$

$$y = \sqrt{\frac{1}{x}(x^k - k)(x^k + 14 + 2x^k)} + \frac{1}{x}(x^k - k)$$

$$y = \sqrt{\frac{1}{x^k}(x^k - 4k) + \frac{1}{x}(x^k - k)}$$

$$y = \sqrt{\frac{1}{x^k}(x^k - k)(x^k + 14 + 2x^k) + \frac{1}{x}(x^k - k)}$$

$$Dy = [-k, 0) \cup [k, +\infty)$$

$$y = \sqrt{\frac{1}{x}(x^k - k)\left(\frac{1}{x^k}(x^k + 14 + 2x^k) + 1\right)}$$

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

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

$$x^2+x=1 \rightarrow x=-2 \rightarrow f(1)=1-1=0$$

$$f(2)+f(1)=1+0=1$$

$$f(x) = x^3 - 4x^2 + 12x + 1 \rightarrow (x-2)^3 + 1$$

$$g(x) = x^3 + 4x^2 + 12x + 1 \rightarrow (x+2)^3 - 1$$

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

$$\frac{1-27}{2+1} = -1$$

$$f(x) = \sqrt{x+3}\sqrt{x-3} \quad f(x) = \sqrt{x-3+3\sqrt{x-3}+3} = \sqrt{(x-3)+3} = \sqrt{x-3+3}$$

$$g(x) = \sqrt{x-3}\sqrt{x+3} \quad g(x) = \sqrt{x-3-3\sqrt{x-3}+3} = \sqrt{(x-3)-3} = \sqrt{x-3-3}$$

$$\sqrt{x-3} + 2 + \sqrt{x-3} - 2 = 2\sqrt{x-3} \rightarrow \frac{0+2}{-2} = -\frac{1}{2}$$

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

$$\rightarrow (x-1)(x-1) \rightarrow x=1, 1$$

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

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

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

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

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

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

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

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