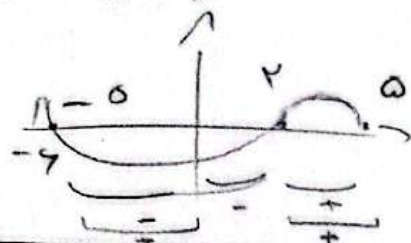


$$y = f(x)$$

$$y = \sqrt{x f(x)}$$



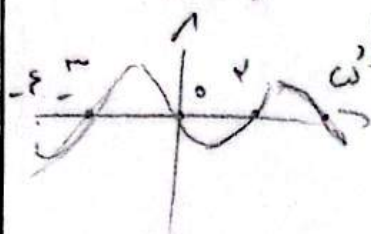
$$f(x) = -5, -2, 5$$

$$x f(x) \geq 0$$

$$[-5, 0] \cup [2, 5]$$

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

$$\frac{-x}{f(x)} \geq 0 \quad f(x) = -3, 0, 2, 5$$



$$\frac{-x}{f(x)} \geq 0 \rightarrow (-5)$$

$$\frac{-x}{-3} = (+)$$

$$\text{جواب} = 1$$

$$f(x) - 2f(2) = x^2 - 3x + 5$$

$$f(-2) - (-5) = 5 + 4 + 5$$

$$f(2) - 2f(2) = 5 - 4 + 5$$

$$f(-2) = 10$$

$$-f(2) = 2$$

$$f(2) = -2$$

$$f(f(5)) + f(f(1)) = ?$$

$$f(x) = \begin{cases} x - \sqrt{x+5} & x > 3 \\ x + 3 & x \leq 3 \end{cases}$$

$$f(5) = 5 - 3 = 2$$

$$f(2) = 5 + 3 = 8$$

$$f(1) = 2 + 3 = 5$$

$$f(5) = 2$$

$$2 + 5 = 7$$

$$f(x) = ax^2 - bx + 5$$

$$f(x-1) - f(x) = 4x + 5$$

$$a - b = ?$$

$$f(1) = a - b + 5$$

$$f(0) - f(1) = 4 + 5 = 9$$

$$f(0) = 5$$

$$5 - f(1) = 9$$

$$f(1) = -4$$

$$a - b + 5 = -4$$

$$a - b = -9$$

$$f(x) = x - 4 + 1 = -1 \quad f(x) = 7 - 9 + 1 = -1$$

$$f(x) = x^2 - 3x + 1$$

$$\frac{f(3) + f(-1)}{f'(x)} = \frac{7 + (-1)}{1} = 6$$

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$$f(x) = 12 + 1 = 13$$

$$f(-x) = 6$$

$$f(x) = 4 + 1 = 5$$

$$f(x) = \begin{cases} x^2 + 1 & x \geq 2 \\ x^2 & x < 2 \end{cases}$$

$$\frac{xf(x) - xf(-x)}{f(x)} = \frac{39 - 1}{5} = \left(\frac{38}{5}\right)$$

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$$f = \{(1, 4), (2, 7), (3, 1), (4, 4)\}$$

$$\frac{f(f(x)) - f(f(y))}{f(x) - y} = \frac{f(1) - f(2)}{4 - 2} = \frac{4 - 7}{2} = -\frac{3}{2}$$

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

$$f(x) = \frac{x^2 + 5x + 1}{x^2 + 5x - 6}$$

$$\frac{(x+2)^2 + 6}{(x+2)^2 + 1} \rightarrow \frac{3+6}{3+1} = \frac{9}{4} = 2.25$$

$$f(x) = \frac{5+6}{5+1} = \left(\frac{11}{6}\right)$$

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$$(f(\sqrt{x}))^r - f(x) = ?$$

$$f(x) = x^r + \frac{1}{x^r}$$

$$(f(\sqrt{x}))^r = \left(x + \frac{1}{x}\right)^r = x^r + \frac{1}{x^r} + r$$

$$f(x) = x^r + \frac{1}{x^r}$$

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

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