

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

$$x - \delta - - - 0$$

$$\begin{array}{cccc} -\delta & 0 & 2 & \delta \\ -\phi & +\phi & -\phi & +\phi & - \end{array}$$

$$D_f = [-\delta, 0] \cup [2, \delta]$$

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

$$0 - 2 - \delta - - - 3$$

$$\begin{array}{cccc} -2 & 0 & 2 & \delta \\ -\phi & +\phi & -\phi & +\phi & - \end{array}$$

$$D_f = [-3, 2] \cup [2, \delta]$$

سائل ۸ عدد صحیح است

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

$$f(-2) = 1$$

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

$$-f(x) = 2$$

$$f(x) = -2$$

$$f(-2) \rightarrow f(-2) - 2f(x) = 4 + 6 + 4 = 14$$

$$f(-2) = 10$$

$$f(x) = \begin{cases} x - \sqrt{x+4} & ; x > 3 \\ 2x + 3 & ; x \leq 3 \end{cases}$$

$$f(1) = 5$$

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

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$$f(x) = dx^2 - bx + 2$$

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

$$f(x-1) - f(x) = 9x + 2$$

$$= d(x^2 - 2x + 1) - (bx - b) + 2$$

$$dx^2 - 2dx + d - bx + b + 2 - (dx^2 - bx + 2) = dx^2 - 2dx + d - bx + b + 2 - dx^2 + bx - 2 = -2dx + d + b = 9x + 2$$

$$\Rightarrow -2d = 9, d + b = 2$$

$$d - b = -3 - 5 = -8$$

$$d = -3$$

$$b = 5$$

$$f(x) = \frac{x^2 + 5x + 0}{x^2 + 5x + 1} = \frac{x^2 + 5x + 0 + 1 - 1}{x^2 + 5x + 1} = 1 - \frac{1}{x^2 + 5x + 1}$$

$$= 1 - \frac{1}{x^2 + 5x + 1} = 1 - \frac{1}{x^2 + 5x + 1} = \frac{x^2 + 5x + 1 - 1}{x^2 + 5x + 1} = \frac{x^2 + 5x}{x^2 + 5x + 1}$$

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

$$\Rightarrow f(x) = x^2 + 1 = 9 + 1 = 10$$

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

$$g(x) = \sqrt{9 - x^2}$$

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

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

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$$f(x) = \{(2, 2), (3, 4), (-5, 4), (1, -4)\}$$

$$f(x) + 1 = \{(2, 3), (3, 5), (-5, 5), (1, -3)\}$$

$$3f(x) + 1 = \{(2, 7), (3, 13), (-5, 13), (1, -11)\}$$

$$f(2x) = \{(1, 1), (1.5, 4), (-2.5, 2), (0.5, -2)\}$$

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

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