

$f(x) = x^2 - x + 1 = 1 \rightarrow x f(x) = x$ $f(-1) = 1 + 1 + 1 = 3$ $f(x) = x^2 - x + 1 = -1 \rightarrow -1^2 = 1$	$\frac{x+1}{1} = \boxed{\sqrt{x}}$	6
$f(x) \rightarrow x f(x) = 1 \rightarrow x f(x) = 1$ $f(-x) = (-x)^2 = x \rightarrow x f(-x) = 1$ $f(x) = x + 1 = 1$	$\frac{x^2 - 1}{x} = \frac{x-1}{1}$	7
$\frac{f(f(x)) - f(f(y))}{f(1) - 1} = \frac{4 - 4}{1 - 1} = 0$		8
$\frac{(\sqrt{x} - x)^2 + f(\sqrt{x} - x) + 9}{(\sqrt{x} - x)^2 + f(\sqrt{x} - x) + 9} = x$ $\frac{x^2 + f(x) + 9}{x^2 + f(x) + 9} = \boxed{\frac{x}{1}}$		9
$f(\sqrt{x}) \rightarrow \left(x + \frac{1}{x}\right)^2 = x^2 + \frac{1}{x^2} + 2$ $f(x) = x^2 + \frac{1}{x^2}$ $x^2 + \frac{1}{x^2} + 2 - \left(x^2 + \frac{1}{x^2}\right) = \boxed{2}$		10

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$$n(n) \geq 0 \quad n \rightarrow \text{مقدور مثبت}$$

مقدور منفی

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

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$$\frac{-n}{f(n)} \geq 0$$

$$n \rightarrow \text{مقدور مثبت}$$

$$f(n) \rightarrow \text{مقدور منفی}$$

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$$n \rightarrow \text{مقدور منفی}$$

$$D_f = (-\infty, 0) \cup (0, 2)$$

$$\boxed{[-1, 1]}$$

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

$$f(x) = -x$$

$$f(-2) - 2(-2) = 14$$

$$\boxed{f(-2) = 10}$$

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$$f(\omega) = \omega - \sqrt{\omega + 4} = \omega - 1 = 2 \quad f(2) = 4 + 2 \quad (\checkmark)$$

$$f(1) = \omega \rightarrow f(\omega) = 8 \quad \boxed{\sqrt{1+4} = 2}$$

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$$a(n-1)^2 - b(n-1) + c$$

$$a - b = -2 - 1 = \boxed{-3}$$

$$a + b - 2an = 4n + 2$$

$$\boxed{a = -2}$$

$$b = \omega$$

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$$-2 + b + 4n = 4n + 2 \quad b = \omega$$