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برای آنگاه نبرد یکال نزدیک تر یا مساوی مثبت باشد باید a و $f(n)$ هم علامت باشند پس:

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$$y = f(n) \quad y = \sqrt{n} f(n)$$

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

$$(-\infty, -4] \cup [-2, 0] \cup [5, +\infty)$$

$$n \cdot f(n) \geq 0$$

$$(-\infty, -4] \cup [-2, 0] \cup [5, +\infty)$$

$$y = \frac{n}{f(n)} \geq 0 \rightarrow \frac{n}{f(n)} \leq 0$$

$$\sqrt{f(n)} \rightarrow f(n) > 0$$

$$(-4, 0) \cup (2, 5)$$

$$\{-2, -1\}$$

$$f(n) < 0, n > 0$$

$$f(n) > 0, n < 0$$

$$D_y = (-3, 2) - \{0\}$$

$$f(x) - 2f(2) = (2)^2 - 2 \cdot 2 + 2$$

$$-f(2) = 2 - 4 + 2 \rightarrow f(2) = 2$$

$$f(-2) - 2f(2) = 2 + 4 + 2 \rightarrow f(-2) = 1$$

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

$$f(n) = an^2 - bn + 2$$

$$f(n-1) = a(n-1)^2 - b(n-1) + 2 = an^2 - 2an - bn + a + b + 2$$

$$f(n-1) - f(n) = 4n + 2$$

$$-2an + a + b = 4n + 2 \rightarrow \begin{cases} -2a = 4 \rightarrow a = -2 \\ a + b = 2 \rightarrow b = 4 \end{cases}$$

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

$$f(3) + f(-1) = 7$$

$$3 \times 13 - 1 = \frac{31}{2}$$

$$4 - 4 = 0$$

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$$\frac{(x^r + \varepsilon x + \varepsilon) + \Delta}{(x^r + \varepsilon x + \varepsilon) + 1} = \frac{(x+r)^r + \Delta}{(x+r)^r + 1} \quad \text{and} \quad \frac{1}{r} = r$$

-9

(1)

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

(2) ✓

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

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