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نام و نام خانوادگی: پاسخانہ تحریری تکلیف شماره: کلاس:
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$$D_f = [-5, 0] \cup [1, 5]$$

$$\begin{aligned} & \text{اگر } f(x) \geq 0 \\ & \text{پیدا کن} \\ & \text{مجموعه } x \text{ ها} \end{aligned}$$

$$\begin{aligned} & f(x) \geq 0 \\ & \frac{-x}{f(x)} \geq 0 \end{aligned}$$

$$(-1, 0) \cup (0, 1)$$

$$\begin{aligned} f(x) - r f(r) &= x^r - r x + r \\ \text{نات } & \\ \hookrightarrow f(r) - r f(r) &= r - r + r \end{aligned}$$

$$\boxed{f(r) = -r}$$

$$\begin{aligned} f(x) + r &= x^r - r x + r \\ \xrightarrow{x=-r} & f(-r) + r = r - r + r \\ & f(-r) = 1 \end{aligned}$$

$$\begin{aligned} f(\omega) &= \omega - \sqrt{\omega + r} = \frac{r}{r} \\ & \xrightarrow{\omega + r} r + r = \omega \\ f(1) &= 1 + r = \frac{\omega}{r} \\ & \xrightarrow{\omega + r} \omega - \sqrt{\frac{\omega}{r}} = +r \end{aligned}$$

$$r + r = \omega = f(f(\omega)) = f(f(1))$$

$$\begin{aligned} f(x) &= ax^r - bx + r \\ f(n-1) - f(x) &= r n + r \end{aligned}$$

$$a n^r - b n + r$$

$$a - b = -r - \omega = -1$$

$$a(n-1)^r - b(n-1) + r$$

$$-r a n + a + b = r n + r$$

$$f(n) = a n^r - r n + a - b n + b + r$$

$$\begin{aligned} -r a + a + b &= r \\ -r b + r &= r \\ \hookrightarrow a + b &= r \\ \hookrightarrow b &= a \end{aligned}$$

$$a n^r - r a n + a - b(n) + b + r$$

$$\begin{aligned} -\frac{f(n)}{-(a n^r - b n + r)} &= -r a n + a + b \end{aligned}$$

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

$$f(4) = 9 - 4 + 1 \rightarrow f(4) = 1$$

$$f(-1) = 1 + 4 + 1 \rightarrow f(-1) = 6$$

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

$$\frac{r + 0}{r f(r) + f(-1)} = \frac{f(r) + 1}{f(r) + 1} = 1$$

$$\frac{r f(r) - r f(-r)}{f(r)} = \frac{r^2 - r}{r} = 1$$

$$f(x) \rightarrow r(x) + 1 = 1r \Rightarrow r = 1$$

$$f(x) \rightarrow r = f(x) \Rightarrow r = x$$

$$f(x) \rightarrow r(x) + 1 = r \Rightarrow r = 1$$

$$\frac{f(f(x)) - f(f(r))}{f(1) - r} = \frac{0}{1 - r} = 0$$

$$f(1) = 9$$

$$\rightarrow f(x) = 1 \quad f(1) = 9$$

$$f(f(x)) = f(1)$$

$$f(f(r)) = f(r) \rightarrow f(r) = 9$$

$$\frac{x^2 + 4x + 9}{x^2 + 4x + 9} = \frac{r + 4 - r\sqrt{r} + r\sqrt{r} - 1 + 9}{r + 4 - r\sqrt{r} + r\sqrt{r} - 1 + 9} = \frac{1}{1} = 1$$

$$f(\sqrt{r} - r) = r$$

$$\frac{r + 4 + 9}{r + 4 + 9} = \frac{r}{r} = 1$$

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

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

$$(f(\sqrt{x}))^2 = x + \frac{1}{x}$$

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