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نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۲... کلاس:
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$$rkr + yr - \epsilon u + \epsilon y + k = 0$$

$$r(u^r - ru) + (y^r + \epsilon y) + k = 0 \rightarrow r(u - 1)^r + (y + \epsilon)^r = 11 - k$$

$$k = 11$$

$$f(u) = \begin{cases} u^r + \epsilon u : u \geq a \\ ru + a + r : u \leq a \end{cases} \xrightarrow{u=a} a^r + \epsilon a = ra + r \rightarrow a^r + a - r \rightarrow a = r$$

$$f(u) = 1 + \epsilon = 0$$

$$f(u) = \begin{cases} ru^r - b : (u+1)^r \rightarrow u \geq 1, \infty < u < -r \\ a + ru : -r \leq u \leq -1 \end{cases}$$

$$u = -r \rightarrow 1 \Rightarrow b = a - \epsilon \rightarrow a + \epsilon = r\epsilon$$

$$y = \sqrt{4u - a} + \sqrt{b - ru}$$

$$D = \{r\}$$

$$4u \geq a \rightarrow u \geq \frac{a}{4}$$

$$b \geq ru \rightarrow \frac{b}{r} \geq u$$

$$1, 10$$

$$\frac{a}{4} = \frac{b}{r} \rightarrow \frac{a}{r} = \frac{b}{4} \rightarrow b = \frac{r}{4}a$$

$$\frac{b}{a} = \frac{1}{4}$$

$$f(u) = \sqrt{\frac{u+1}{u-1}} + \sqrt{\frac{r-u}{u^r+ru+\epsilon}}$$

$$D = (-1, r) \cup (r, 4)$$

$$= \frac{u+1}{u-1} + \frac{r-u}{u^r+ru+\epsilon}$$

$$= \frac{u+1}{u-1} + \frac{r-u}{u^r+ru+\epsilon}$$

$$1, 10$$

$$\Rightarrow \sqrt{[u]-\epsilon} + \sqrt{r-[u]} \rightarrow [u] \geq \epsilon / [u] \leq r \rightarrow u \leq r$$

$$D = R - (r, \epsilon) \quad D \cap R = \emptyset$$

$$D = (-\infty, r) \cup (r, +\infty) - \{r\}$$

$$\sqrt{\frac{u^2 - u - r}{x^2 - 14xr + r^2}} = \sqrt{\frac{(u-r)(u+r)}{(u-r)(u+r)(u-r)(u+r)}} = \frac{1}{u-r}$$

$$D = \mathbb{R} - \{-\infty, -r\}$$

$$\sqrt{\frac{x^2 - rx - \omega x + r}{x^2 + rx - \omega x - r}} \Rightarrow \frac{x^2 - rx - \omega x + r}{x^2 + rx - \omega x - r} = \frac{(x-r)(x+r)}{(x+r)(x-r)(x-r)(x+r)} = \frac{1}{(x-r)^2}$$

$$D = (-\infty, r) \cup (r, +\infty) \cup (r, r) \cup (r, +\infty)$$

$$\text{الف) } y = \sqrt{u} - r \rightarrow [u] \geq r \rightarrow -u \leq -r \rightarrow u \leq -r$$

$$\frac{\omega u^2 + y}{[u]^2 - x[u] - r} = 0 \quad [u] = A \rightarrow Ar - rA - r^2 = 0 \rightarrow A = -1/r$$

$$[u] = 1 \rightarrow -1 \leq u < \quad [u] = r \rightarrow r \leq u < r$$

$$D = (-\infty, 0) \cup [r, r)$$

$$\text{الف) } \frac{\tan u + 1}{\tan u - 1} \rightarrow \tan u \neq -1 \quad \frac{rkr}{rkr} \leq u < \frac{rkr}{rkr} - \frac{\pi}{r}$$

$$D = (rkr, rkr - \frac{\pi}{r}) \cup (rkr + \frac{\pi}{r}, rkr + r)$$

$$\sqrt{1 - r \sin u} \rightarrow \frac{1}{r} \geq \sin u \rightarrow \frac{1}{r} \geq |u|$$

$$D = (rkr + \frac{\pi}{r}, rkr, \frac{\omega r}{r})$$

$$\text{الف) } y = \sqrt{1 - \log \frac{u}{r}} \Rightarrow 1 \geq \log \frac{u}{r} \rightarrow \frac{1}{r} \geq u - 1 \rightarrow u \leq 1/\omega$$

$$D = (-\infty, 0) \cup (r, +\infty) - \{-b, c\}$$

$$\frac{\sqrt{u^2 - u}}{1 - \log \frac{u^2 - ru}{r}} \rightarrow 1 \neq \log \frac{u^2 - ru}{r} \rightarrow u^2 - ru \neq r$$

$$\sqrt{\frac{u^2 - ru}{r}} \geq 1 \rightarrow u^2 - ru \geq r \rightarrow u^2 - ru + r \leq 0$$

$$D = [1, r]$$

$$\chi\left(\frac{ru + \omega}{ru + r}\right) \leq \frac{ru + \omega}{ru + r} = u \Rightarrow u = \frac{ru - \omega}{ru - r}$$

$$D = \{u \mid u = \frac{ru - \omega}{ru - r}, k \in \mathbb{N}\}$$