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نمبرزاد شوشتری

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$$\frac{1}{n-1}, |n-1| \rightarrow \frac{1}{t}, |t| \rightarrow t > 0, t^2 = 1 \rightarrow t = \pm 1$$

لغز

$n \neq 1$

$$t < 0 \rightarrow |t| = -t \rightarrow \frac{1}{t}, -t \rightarrow -t^2 = 1 \rightarrow t^2 = -1 \text{ لغز}$$

$$\rightarrow n-1, 1 \rightarrow \sqrt{n-1}$$

بسیار زیاده دارد

$$\left| \frac{r_{k-1}}{n} \right| < 1 \rightarrow \left| \frac{r_{k-1}}{n} \right| < r \rightarrow \frac{r_{k-1}}{n} < r \rightarrow \frac{r_{k-1} - r_n}{n} < 0 \rightarrow \frac{-1}{n} < 0 \rightarrow n > 0$$

(۱۲)

$$\frac{r_{k-1}}{n} > r \rightarrow \frac{r_{k-1} + r_n}{n} > r \rightarrow \frac{r_{k-1}}{n} > r \rightarrow \frac{1}{n} > r \rightarrow n < 0$$

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$$\rightarrow \left(\frac{1}{\varepsilon}, +\infty \right) \cup \left(-\infty, 0 \right) \cup \left(\frac{1}{\varepsilon}, +\infty \right)$$

$$\begin{aligned} \text{ب) } \left| \frac{n-r}{r_{k+1}} \right| > 1 &\rightarrow \frac{n-r}{r_{k+1}} > 1 \rightarrow \frac{n-r - r_{k+1}}{r_{k+1}} > 0 \rightarrow \frac{-n-r}{r_{k+1}} > 0 \rightarrow \frac{-r - \frac{1}{r}}{-1 - \frac{1}{r}} \\ \left| \frac{n-r}{r_{k+1}} \right| < -1 &\rightarrow \frac{n-r + r_{k+1}}{r_{k+1}} < 0 \rightarrow \frac{r_{k+1} - 1}{r_{k+1}} < 0 \rightarrow \frac{-1}{r_{k+1}} < 0 \rightarrow \frac{-1}{r} < 0 \rightarrow \left(-\frac{1}{r}, \frac{1}{r} \right) \end{aligned}$$

(۱۳)

$$\begin{aligned} n+4 > r &\rightarrow n > -4 \rightarrow n^2 < n+4 \rightarrow n^2 - n - 4 < 0 \rightarrow (n-3)(n+2) < 0 \rightarrow -2 < n < 3 \\ n+4 < 0 &\rightarrow n < -4 \rightarrow n^2 < -n-4 \rightarrow n^2 + n + 4 < 0 \rightarrow (n+3)(n-1) < 0 \rightarrow -3 < n < 1 \\ (-3, 3) \rightarrow |n-2| < 3 &\rightarrow \frac{n-2}{3} \in \left(\frac{1}{3}, 1 \right) \end{aligned}$$

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$$\begin{aligned} n < -1 &\rightarrow y = 1 \rightarrow 1 \leq n < 0 \rightarrow y, r_{k+1} = 1 \\ y, r &\rightarrow n = 0 \\ y, -1 &\rightarrow n > 1 \rightarrow r-1 \in \left(\frac{1}{r}, 1 \right) \end{aligned}$$

(۱۴)

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$$y = \lfloor \frac{1}{r} u \rfloor - r \rightarrow y = \lfloor \frac{1}{r} (u + \varepsilon) \rfloor - r + 1 \rightarrow y = \lfloor \frac{u}{r} + r \rfloor - 1$$

$$y_1 = y + r = \lfloor \frac{1}{r} u \rfloor - r + \frac{u}{r} + r + 1 \rightarrow \lfloor \frac{1}{r} u \rfloor + \frac{u}{r} + 1 \rightarrow k, \rightarrow \frac{1}{r} u = \frac{u}{r} + r \rightarrow \dots = r \text{ و } \varepsilon$$

(5)

$$u < -\varepsilon \rightarrow -\frac{1}{r} u = -\frac{u}{r} - r + 1 \rightarrow -\frac{1}{r} u = -\frac{1}{r} u - 1 \rightarrow 0 = -1 \text{ و } \varepsilon$$

$$-\varepsilon \leq u < 0 \rightarrow -\frac{1}{r} u = \frac{u}{r} + r + 1 \rightarrow -u = u + r \rightarrow u = -r \text{ و } \varepsilon$$

$$f(u) = \lfloor |1-u| - |u+\varepsilon| \rfloor$$

$$u < -\varepsilon \rightarrow (1-u) + (u+\varepsilon) = 1 - \cancel{u} + \cancel{u} + \varepsilon = \varepsilon$$

$$-\varepsilon \leq u < 1 \rightarrow (1-u) - (u+\varepsilon) = 1 - u - u - \varepsilon = 1 - 2u - \varepsilon \rightarrow \dots = -\varepsilon \rightarrow y = 0$$

$$u > 1 \rightarrow (u-1) - (u+\varepsilon) = u - 1 - u - \varepsilon = -1 - \varepsilon \rightarrow y = -1$$

(4)

(5)

$$y = \lfloor -ru \rfloor - 1 \quad u \in (-1, 1)$$

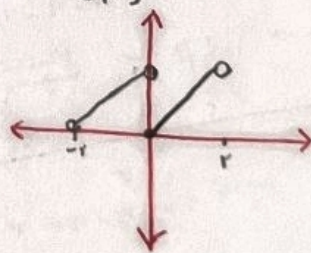
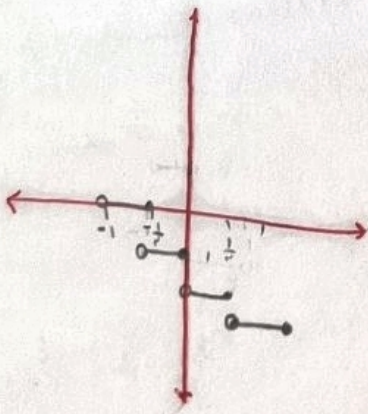
$$\lfloor -ru \rfloor - 1$$

$$y = u - r \lfloor \frac{u}{r} \rfloor$$

تحت ب مول 9 آنر صفحه

(4)

(5)



$$-r < u < 0 \rightarrow \lfloor \frac{u}{r} \rfloor = -1 \rightarrow y = -r$$

$$0 \leq u < r \rightarrow \lfloor \frac{u}{r} \rfloor = 0 \rightarrow y = u$$

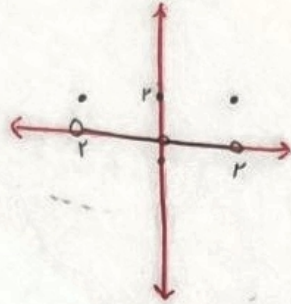
$$\begin{aligned} -1 < u < -\frac{1}{r} &\rightarrow y = -r-1 \\ -\frac{1}{r} \leq u < -\frac{2}{r} &\rightarrow y = -r-2 \\ &\vdots \\ -\frac{(r-1)}{r} \leq u < 0 &\rightarrow y = -1 \end{aligned}$$

$$y = [11n-11] \quad n \in [-r, r]$$

$$-r \in \{-r, r\} \rightarrow [r]$$

$$(-r, 0) \cup (0, r) \rightarrow \cdot$$

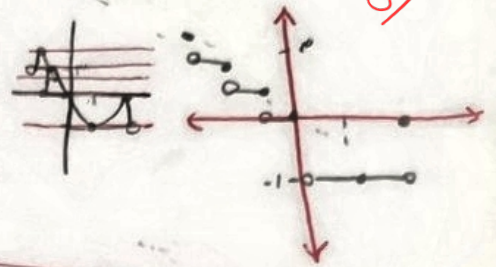
$$\cdot \rightarrow r$$



$$y = [u^r, u_n] \in [-1, r]$$

(1)

$$-\frac{b}{r}, \frac{r}{r}, 1 \quad n = 1, 2, \dots, -1$$



(5)

$$\begin{aligned} a + [b] &= r, r \\ b - [a] &= r, r \end{aligned} \rightarrow \begin{aligned} [a] + [b] &= r \\ [b] - [a] &= r \end{aligned}$$

(2)

$$r[b], 4 \rightarrow [b] = r \rightarrow a = 1, r$$

$$[a], 1, b = 1, r, \epsilon \rightarrow b = r, \epsilon$$

$$\rightarrow 1, r, r, \epsilon, \frac{r}{r}, \frac{r}{r}$$

(5)

$$[(1+\sqrt{r})^n] = [19n - (1-\sqrt{r})^n] \rightarrow [(1+\sqrt{r})^n] \leq 1 \rightarrow [19n-1], 19n$$

(1)

$$f(n) = \frac{1}{n} - \left[\frac{n+1}{n} \right] \rightarrow \frac{1}{n} - \left[\frac{1}{n} \right] - 1 \rightarrow a - [a] = \frac{1}{n} - 1 \rightarrow$$

سوال دقت ب

$$\frac{1}{n} - \left[\frac{1}{n} \right] - 1 \rightarrow -1 \leq \frac{1}{n} - 1 \rightarrow [-1, 0)$$

