

19, 20

آرمینا کیسین: کوری دهم و نهم

$$\frac{a}{q}, a, aq \rightarrow a^x \leq q \leq a^{x+1} \quad \epsilon q + \epsilon + \frac{\epsilon}{q} \leq 21$$

$$\xrightarrow{\times q} \epsilon q^2 + \epsilon q + \epsilon \leq 21q \quad \epsilon q^2 - 14q + \epsilon \leq 0 \rightarrow q = \frac{1}{\epsilon}, q \leq \epsilon$$

$$\rightarrow \left(\frac{1}{\epsilon} : q \text{ غرضی} \right)$$

①

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$$\epsilon n^x = (n^x + \epsilon)(n^x - \epsilon) \rightarrow \epsilon n^x, n^x + \epsilon n^x - 1 \rightarrow n^x - \epsilon n^x - 1 \leq 0$$

$$(n^x - \epsilon)(n^x + \epsilon) \leq 0 \rightarrow n^x \leq \epsilon, n^x \leq -\epsilon x$$

$$n = \pm \epsilon \rightarrow n \leq \epsilon$$

$$S_V \leq n \left(\frac{1 - (\frac{1}{\epsilon})^x}{1 - \frac{1}{\epsilon}} \right) = 14 \times \frac{14}{14} = \left(\frac{14}{1} \right)$$

②

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$$\underline{ax = 14} \rightarrow a + aq + aq^2 + aq^3 + aq^4 = \frac{14}{11} \times a \leq \frac{14}{11} \times 243 \leq 293$$

③

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NOTEBOOK

$$d = \frac{4x-1}{4} = \frac{4x}{4}$$

$$4^x = 4x \rightarrow x = \pm 1$$

$$\rightarrow x = 1 \quad \log_4 d = a \cdot x^b = 1 \cdot 1^4 = 1$$

$$x = -1 \quad a \cdot x^b = 1 \cdot (-1)^4 = 1$$

$$A \rightarrow B \rightarrow \begin{cases} x=1, d=1 \rightarrow (1, 1) \\ x=-1, d=1 \rightarrow (-1, 1) \end{cases}$$

$$x=1, d=1 \rightarrow (1, 1)$$



$$a, rd, \underbrace{a+rd}_a, \underbrace{a+rd}_a \rightarrow a+rd=b \quad b, b+rd, b+rd$$

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$$(b+rd)^r, b(b+rd) \rightarrow b+rd^r + nbd = b^r + abd \rightarrow rd^r = bd$$

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$$q = \frac{b+rd}{b} = \frac{r+d}{rd} = \left(\frac{a}{r}\right)$$

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$$\begin{array}{ccc} a, aq^r, aq^r \\ b, b, d, b+rd \\ \hline d, nd \end{array}$$

$$a(1+q^r+q^r) = vr$$

$$q^r - a = \frac{a^r - aq^r}{r} \rightarrow nq^r - n = q^r - q$$

$$q^r - qq^r + n = (q^r - 1)(q^r - 1) = 0$$

$$q \neq 1, q \neq r$$

$$\rightarrow q \neq 1 \rightarrow a \neq vr \rightarrow a \neq vr$$

$$b \neq vr, b+rd \neq \frac{vr}{r} \rightarrow (d \neq 0)$$

$$q \neq r \rightarrow a \neq (1+n+re)vr \rightarrow a \neq 1$$

$$b \neq 1, b+rd \neq \frac{1}{r} \rightarrow (d \neq 0)$$

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Persian