

نوین کنکور

کنکور

امتحان نهایی

**نوین کنکور
شرط لازم و کافی
برای موفقیت**

novinkonkor.com

۱- فرض کنیم

به هر یک از اعداد a, b, c عدد

$$a \neq 0, b = ac$$

در اینجا $a \neq 0$ و a و c در $\mathbb{Z}$ صحیح است.

۲- فرض کنیم

$$\lambda + \lambda = 1 \rightarrow \lambda_{1,2} = \frac{-1 \pm \sqrt{5}}{2} \quad \text{و} \quad \lambda_1 = \frac{-1 + \sqrt{5}}{2}$$

$$\frac{r^n (A\lambda^n + (B\lambda^n + C_{n+1}))}{(C_{n+1})^2} = \frac{r^n (C_{n+1})^n}{(C_{n+1})^2} = \frac{r^n}{C_{n+1}} = \frac{r^n}{2 \left(\frac{-1 + \sqrt{5}}{2} \right)^{n+1}}$$

$$= \frac{r^n}{\sqrt{5}} = \frac{r^n \sqrt{5}}{5} = \frac{1}{5} r^n \sqrt{5}$$

۳- فرض کنیم



$$A \cap B = B - A$$

$$(B \cap A) = B', B \cap A$$

$$((B \cap A) = B') \cap (B \cup A) = A \cap B$$

$$\left. \begin{array}{l} A \cap B = B - A \\ (B \cap A) = B', B \cap A \\ ((B \cap A) = B') \cap (B \cup A) = A \cap B \end{array} \right\} \rightarrow (B - A) \cup (A \cap B) = B$$

@Amirwjlhp

دانش ۳: به رسم طبع بدین ملاحظه، عطف به نامه B خراسان و ایت.

$$a - 2 > 0$$

$$\rightarrow a > 2 \rightarrow B(1, 1), A(9, 1)$$

$$v - 2a > 0$$

$$S(5, 3) \rightarrow \lambda_5 = \frac{9+1}{2} = 5$$

$$y = a(x - 5)^2 + 3 \rightarrow 1 = a(1 - 5)^2 + 3 \rightarrow a = -\frac{1}{8}$$

$$x = 0 \rightarrow y = -\frac{1}{8}(0 - 5)^2 + 3 = -\frac{25}{8} + 3 = -\frac{1}{8}$$

$$\rightarrow \left| -\frac{1}{8} \right| = \frac{1}{8}$$

$$\log \varepsilon = \frac{1}{a+1} = \frac{1}{\frac{b}{\varepsilon a}} = \frac{\varepsilon a}{b} \rightarrow \frac{\varepsilon a}{b} = \log \varepsilon$$

$$\rightarrow b = \frac{\varepsilon a}{\log \varepsilon}$$

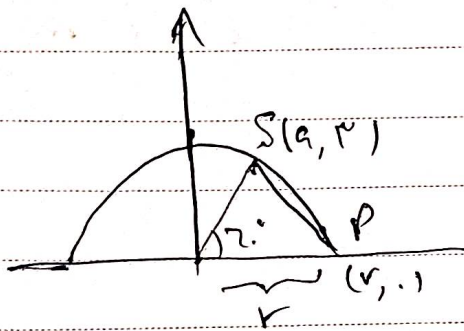
$$a = \frac{b+c}{2} \rightarrow c = 2a - b = 2a - \frac{\varepsilon a}{\log \varepsilon} = 2a \left(1 - \frac{\varepsilon}{\log \varepsilon}\right)$$

$$\rightarrow \frac{c}{a} = 2 \left(1 - \frac{\varepsilon}{\log \varepsilon}\right) = 2 \left(1 - \frac{\varepsilon}{2 \log 2}\right) = 2 - \frac{\log 2}{\log \varepsilon}$$

$$\rightarrow \frac{c}{a} = 2 - \frac{\log 2}{\log \varepsilon} \rightarrow \frac{1}{\sqrt{\varepsilon}} \times (\sqrt{2})^{\log 2} = \frac{1}{\sqrt{\varepsilon}} \times 1.414 = \frac{\sqrt{2}}{\sqrt{\varepsilon}} = \sqrt{2} \sqrt{\varepsilon}$$

$$\lambda_5 = \frac{1}{2} \rightarrow \left(\frac{1}{2}, 0\right) \rightarrow \frac{1}{\varepsilon} - \frac{1}{\varepsilon} + a = 0 \rightarrow a = \frac{1}{\varepsilon}$$

$$\Sigma n^2 = \lambda^2 - \lambda + \frac{1}{\varepsilon} \rightarrow \lambda^2 - \lambda + \frac{1}{\varepsilon} = 0 \rightarrow \lambda = \frac{1 \pm \sqrt{1 - \frac{4}{\varepsilon}}}{2} \rightarrow \lambda = \frac{1}{\varepsilon}$$



$$\begin{cases} a = r \cos \alpha \rightarrow \frac{a}{r} = \cos \alpha \\ r = r \sin \alpha \rightarrow r = r \times \frac{r}{r} \rightarrow r = r \sin \alpha \end{cases}$$

$$\frac{a}{r} = \cos \alpha \rightarrow \frac{a}{r} = \frac{r}{r} \rightarrow a = r$$

۱- ترسیم

$$f(-1) = 19$$

$$g(-1) = 1 \rightarrow (f \circ g)(-1) = f(g(-1)) = f(1) = 9$$

۲- ترسیم

$$f(f(a)) = a \rightarrow f^{-1}(a) = f(a) \rightarrow f(a) = a$$

$$2a - a\sqrt{a} = 2\sqrt{a+1} = a \rightarrow 2a - a\sqrt{a} = 2\sqrt{a+1}$$

$$\rightarrow 2(a+1) = \sqrt{a}(a+1) \rightarrow \begin{cases} a = -2 \times \\ \sqrt{a} = 2 \rightarrow a = 4 \checkmark \end{cases}$$

$$f(a-4) = f(2) = 9 \rightarrow f(12) = 12 \times 12 - 12 \times 4 - 2 \times 2 + 1 = 13$$

$$x = -\frac{1}{r} \rightarrow -\frac{1}{r}a + b = 0 \rightarrow b = \frac{a}{r}$$

۱۱- ترسیم

$$g(\frac{1}{2}a+b) = r \rightarrow \frac{1}{2}a+b = \frac{1}{2}a + \frac{a}{r} = 9 \rightarrow \frac{a}{r} = 9 \rightarrow a = 9r$$

$$b = \frac{a}{r} \rightarrow b = 1$$

$$r_{n+1} = \frac{1}{q} \rightarrow r_n = -\frac{1}{q} \rightarrow x = -\frac{1}{q}$$

$$(1 + \cos \alpha) \left(-\frac{1}{\sin \alpha} + \frac{\cos \alpha}{\sin \alpha} \right)$$

12 - فتره

$$(1 + \cos \alpha) \left(\frac{\cos \alpha - 1}{\sin \alpha} \right) = \frac{-\sin^2 \alpha}{\sin \alpha} = -\sin \alpha$$

13 - فتره

$$\tan(\alpha + \frac{\pi}{2}) = \frac{\sqrt{r}}{\epsilon} \rightarrow \tan \alpha = \frac{\sqrt{r}}{\epsilon} \quad (1)$$

$$\cot(180^\circ - \alpha) = \cot y \xrightarrow{(1)} \alpha + y = \pi \rightarrow \tan(\alpha + y) = \tan \pi = \frac{\sqrt{r}}{\pi}$$

$$\rightarrow \frac{\frac{\sqrt{r}}{\epsilon} + \tan y}{1 - \frac{\sqrt{r}}{\epsilon} \tan y} = \frac{\sqrt{r}}{\pi} \xrightarrow{\text{طرح و ضرب}} \frac{\delta}{\epsilon} \tan y = \frac{\sqrt{r}}{18} \rightarrow \tan y = \frac{\sqrt{r}}{18}$$

$$\rightarrow \cot y = \frac{18\sqrt{r}}{\pi} = \boxed{\delta \sqrt{r}}$$

$$A = (\sqrt{r} - \frac{\sqrt{r}}{\pi}) (1 - \cos \pi) - (\sqrt{r} \frac{\sqrt{r}}{\pi} - \cos \pi) \quad \begin{matrix} \cos(\pi + \frac{\pi}{2}) \\ \uparrow \\ \cos(\pi - \frac{\pi}{2}) \end{matrix} \quad \begin{matrix} \sin(\frac{\pi}{2} - \pi) \\ \uparrow \\ \sin(\pi - \frac{\pi}{2}) \end{matrix} \quad \begin{matrix} \cos(\pi - \frac{\pi}{2}) \\ \uparrow \\ \cos(\pi + \frac{\pi}{2}) \end{matrix}$$

$$= \frac{\pi}{\pi} \cos \pi + \cos \pi = \pi, \delta \cos \pi$$

$$\tan \pi = -\tan \pi = \tan(-\pi)$$

$$\pi = k\pi - \pi \rightarrow \alpha = \frac{k\pi}{\delta}$$

1	2	3	4	5	6
$\frac{\pi}{\delta}$	$\frac{2\pi}{\delta}$	$\frac{3\pi}{\delta}$	$\frac{4\pi}{\delta}$	$\frac{5\pi}{\delta}$	$\frac{6\pi}{\delta} = \pi$

۱۶- تمرین ۳

$$\lim_{x \rightarrow \sqrt{a}^+} \left(\frac{x\sqrt{x-a}}{\sqrt{x-a}\sqrt{x+a}} + \frac{x(\sqrt{x}-\sqrt{a})}{\sqrt{x-a}\sqrt{x+a}} \right)$$

$$= \lim_{x \rightarrow \sqrt{a}^+} \left(\frac{x}{\sqrt{a}} + \frac{x(\sqrt{x}-\sqrt{a})}{\sqrt{x-a}\sqrt{x+a}} \times \frac{\sqrt{x}+\sqrt{a}}{\sqrt{x}+\sqrt{a}} \right)$$

$$= \frac{x}{\sqrt{a}} + \lim_{x \rightarrow \sqrt{a}^+} \frac{\sqrt{x-a}}{\sqrt{x-a}\sqrt{x+a}} \cdot \frac{x(\sqrt{x}-\sqrt{a})}{\sqrt{a}} = \frac{x}{\sqrt{a}} + 0 = \frac{x\sqrt{a}}{\sqrt{a}} = \sqrt{\frac{x}{a}}$$

$\frac{b}{a} = ?$ $\lim_{x \rightarrow \sqrt{a}} \frac{x}{x^2 + ax + b} = \infty$ ۱۷- تمرین ۱

$$\rightarrow \lim_{x \rightarrow \sqrt{a}} \frac{x}{(x-\sqrt{a})^2} \rightarrow (x-\sqrt{a})^2 = x^2 - 2\sqrt{a}x + \sqrt{a}^2$$

$$\frac{b}{a} = \frac{\sqrt{a}^2}{-2\sqrt{a}} = \frac{-1, 0}{2} \rightarrow \left[\frac{b}{a} \right] = -1$$

@amirmjhp

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

$$f^{-1}(n) = -\frac{r}{a} n + \frac{1}{a}$$

$$\lim_{n \rightarrow -\infty} \frac{-\frac{r}{a} n}{|-\frac{r}{a} n|} = 1$$

$$\frac{1}{1} = 1$$

$$= \lim_{n \rightarrow -\infty} \frac{\frac{r}{a} n}{\ln |r-a|} = \frac{r}{a|r-a|} \rightarrow r \rightarrow a|r-a| = 1$$

$$\rightarrow \begin{cases} a > r, a - r - 1 = 0 \rightarrow a = 1 + r \checkmark \\ a < r, a - r + 1 = 0 \rightarrow a = 1 - r \times \end{cases}$$

$$n \rightarrow 0^+, \frac{\ln n}{a \ln n} = \frac{1}{a}$$

$$\frac{1}{1} = 1$$

$$n \rightarrow -\infty, \frac{\ln n}{a \ln n} = \frac{1}{a} = \frac{r-a-1}{r-a+r} \rightarrow r-a+r = r-a \rightarrow r-a-r = -a = -1$$

$$\rightarrow \frac{a-1}{a-r} \checkmark$$

$$\lim_{n \rightarrow \frac{1}{a}} f(n) = \lim_{n \rightarrow \frac{1}{r}} f(n) = \frac{\frac{1}{2} + \frac{1}{r}}{\frac{1}{2} + 1} = \frac{\frac{r}{2}}{\frac{3}{2}} = \frac{r}{3}$$

٢- شرح

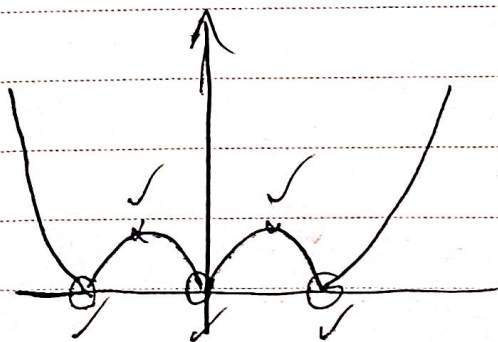
$$\checkmark \quad \text{سریع} \quad \underline{a+1=b} \quad \text{سریع} \quad \underline{a+1=b} \quad \text{سریع} \quad \underline{a+1=b} \quad \text{سریع} \quad \underline{a+1=b}$$

$$\rightarrow b = \frac{1}{r} \rightarrow a = \frac{1}{r}$$

$$a + b \cdot \frac{1}{r} + \frac{r}{r^2}$$

$y = 1$ $f(n) = 1$ $2 - \log_2 n$ $\log_2 n$ $\log_2 n$

۲۲ فرست!



$$\frac{m_2 P}{n_2 P} \rightarrow \frac{n}{m} = \frac{P}{P}$$

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