



آدرس وب سایت ما

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نوین کنکور

در شبکه های اجتماعی



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۰۹۳۸۲۵۱۶۷۴۷

نوین کنکور مرجع کنکور و امتحان نهایی

١٤٠١ خارج

@Aaazzii

٧٩٨

بسط ریاضی قهری

$$\frac{\sqrt{2} + \sqrt{5}}{\sqrt{2}(\sqrt{2} + \sqrt{5})} \times \left[\sqrt{\frac{3+2}{2}} - \sqrt{\frac{3-2}{2}} - \left(\sqrt{\frac{3+2}{2}} + \sqrt{\frac{3-2}{2}} \right) \right]$$

١٠١/

$$\frac{1}{\sqrt{2}} \times (-\sqrt{2}) = -1$$

$$\sqrt{a \pm \sqrt{b}} = \sqrt{\frac{a + \sqrt{a^2 - b}}{2}} \pm \sqrt{\frac{a - \sqrt{a^2 - b}}{2}}$$

$$a_n = an^2 + bn + c$$

١٠٢/

$$a_0 = 1 \Rightarrow \begin{cases} 2a + 0b + c = 1 \end{cases}$$

$$a_1 = 1/2 \Rightarrow \begin{cases} 4a + 1b + c = 1/2 \end{cases} \Rightarrow 2a + 1b = 1/2 \Rightarrow 1a + b = 1/4$$

$$a = \frac{1}{1} (-a_0) = \frac{1}{1} (-1) = -1 \Rightarrow 1a + b = 1/4 \Rightarrow b = 1/4 + 1 = 5/4$$

$$1a + b = 1/4 \Rightarrow b = 1/4 + 1 = 5/4$$

$$2a + 1b + c = 1/2 \Rightarrow -2 + 5/4 + c = 1/2 \Rightarrow c = 1/2 - 2 + 5/4 = -1/4$$

$$a_n = -\frac{1}{4}n^2 + 5/4n - 1/4$$

$$a_1 = -\frac{1}{4} + 5/4 - 1/4 = 1/2$$

$$a_{1/2} = -\frac{1}{4}(1/2)^2 + 5/4(1/2) - 1/4 = 1/2 - 1/4 = 1/4 \Rightarrow \frac{a_{1/2}}{a_1} = \frac{1/4}{1/2} = \frac{1/4}{1/2} = \frac{1}{2} = \frac{1}{2}$$

١٠٣/

$$S = \left(x = -\frac{b}{2a}, y = -\frac{\Delta}{4a} \right) \text{ } \begin{matrix} \text{نقطه} \\ \text{سرج} \end{matrix}$$

$$y_1 = -ax^2 + ax + 2 \quad S_1 \left(\frac{1}{2}, \frac{a}{4} + 2 \right)$$

$$y_2 = 2bx^2 - bx - 1 \quad S_2 \left(\frac{1}{4}, -\frac{b}{4} - 1 \right)$$

$$\begin{aligned} \hookrightarrow \frac{a}{4} + 2 &= 2b \left(\frac{1}{2} \right)^2 - b \left(\frac{1}{2} \right) - 1 \Rightarrow \frac{a}{4} + 2 = -1 \Rightarrow \frac{a}{4} = -3 \Rightarrow a = -12 \\ -\frac{b}{4} - 1 &= 2 \left(\frac{1}{4} \right)^2 - 2 \left(\frac{1}{4} \right) + 2 \Rightarrow -\frac{b}{4} = -\frac{1}{2} + 1 \Rightarrow b = -2 \Rightarrow b - a = 10 \end{aligned}$$

$$\frac{1-2m}{m+1} = -2 \Rightarrow 1-2m = -2m-2 \Rightarrow m = \mu$$

$$\frac{1-2m}{m+1} = 0 \Rightarrow 1-2m = 0 \Rightarrow m = \frac{1}{2}$$

$$\Rightarrow \frac{1}{2} < m < \mu$$

$$\frac{1}{2} < \frac{m}{2} < \frac{\mu}{2} \Rightarrow \begin{bmatrix} m \\ 2 \end{bmatrix} = 0, 1$$

105/

$$f(m) = \underline{abm} - \underline{am^2} + \underline{2b} - \underline{2m} - \underline{vm^2} = -(a+v)m^2 + (ab-2)m + 2b$$

در تابع مرتبه دوم ضرایب m^2 و m برابر 0 و قاعده دودخ $\hookrightarrow$

$$a+v=0 \Rightarrow a=-v$$

$$ab-2=0 \Rightarrow -vb=2 \Rightarrow b = -\frac{2}{v}$$

$$S_0 = \text{دودخ} = 2b = 2\left(-\frac{2}{v}\right) = -\frac{4}{v}$$

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$$\textcircled{1} \rightarrow \frac{1}{m-1} \quad \textcircled{2} \rightarrow \frac{-1}{m-1} \quad \textcircled{3} \rightarrow \frac{-1}{m-1} - 2$$

$$\frac{-1}{m-1} - 2 = \frac{1}{m} \Rightarrow \left(\frac{1}{m} + \frac{1}{m-1} = -2 \right) \times m(m-1)$$

$$m-1+m = -2m^2+2m \Rightarrow 2m^2=1 \Rightarrow m^2=\frac{1}{2} \Rightarrow m=\pm\frac{1}{\sqrt{2}}$$

$$y = \frac{1}{m} = \frac{1}{\pm\frac{1}{\sqrt{2}}} = \pm\sqrt{2}$$

$$A \left| \begin{array}{c} \frac{1}{\sqrt{2}} \\ \sqrt{2} \end{array} \right.$$

$$B \left| \begin{array}{c} -\frac{1}{\sqrt{2}} \\ -\sqrt{2} \end{array} \right.$$

$$OA = \sqrt{\left(\frac{1}{\sqrt{2}}\right)^2 + \sqrt{2}^2} = OB = \sqrt{\frac{1}{2} + 2} = \sqrt{\frac{5}{2}} = \frac{\sqrt{10}}{\sqrt{2}} = \frac{\sqrt{5}}{1}$$

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$$P = \frac{c}{a} \Rightarrow a+b-1=ab \Rightarrow a-1=ab-b=b(a-1) \Rightarrow b = \frac{a-1}{a-1} = 1$$

$$S = -\frac{b}{a} \Rightarrow a^2 + b^2 - 12 = a + b \xrightarrow{b=1} a^2 + 1 - 12 = a + 1$$

$$a^2 - a - 12 = 0 \Rightarrow (a-4)(a+3) = 0 \Rightarrow \begin{cases} a=4 \in \mathbb{N} \\ a=-3 \notin \mathbb{N} \end{cases}$$

$$a+b=4+1=5$$

$$\sqrt{2-x} = t \Rightarrow \frac{1}{t+2} + \frac{1}{t-2} = \frac{t}{5}$$

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$$\frac{t-2+t+2}{(t+2)(t-2)} = \frac{t}{5} \Rightarrow t^2 - 4 = 10 \Rightarrow 2-x = 14 \Rightarrow x = -12$$

فقط یک ریشه منفی دارد

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منطق تابع ۲ در ۳ تابع یک به یک نیست و دارد نیز

منطق (سوال عکس است) و گزینه‌ها را عوض
منطق رطوع سوال این بود جای
کن و در تابع قرار بده هر کدام
مصدق کرد جواب است

$$(-2, 9) \Rightarrow 9 = -3(-2)^3 + 2(-2) - 11 \Rightarrow 9 = 24 - 4 - 11 = 9$$

گزینه طرأع سوال = یک

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$$g(0) = g(2) = 3$$

مقدار $f(-2) = -2$ مستحق نیست باید معادله خط را بنویسد

$$m = \frac{0+3}{2-0} = \frac{3}{2} \Rightarrow y = \frac{3}{2}x - 3 \Rightarrow -2 = \frac{3}{2}x - 3 \Rightarrow \frac{3}{2}x = 1 \Rightarrow x = \frac{2}{3}$$

$g(\frac{2}{3})$ مستحق نیست باید معادله خطش را با توجه به نقاط A' و B' بنویسد

$$m' = \frac{2-1}{0-1} = -1 \Rightarrow g = -x + 2$$

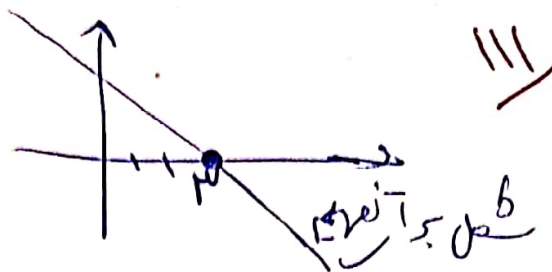
$$g(\frac{2}{3}) = -\frac{2}{3} + 2 = \frac{4}{3}$$

$$g \circ f'(-2) \times g(0) = \frac{4}{3} \times 3 = 4$$

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$$\frac{a^2 f(m)}{2} \geq 0$$

$$x = 0, 1, 2, 3$$



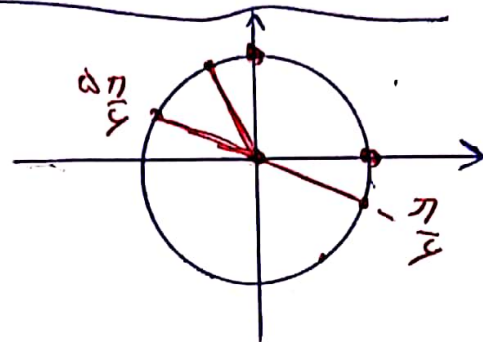
$$-\frac{\pi}{4} < x < \frac{\pi}{4}$$

$$\sin\left(\frac{\pi}{4}\right) = \frac{1}{\sqrt{2}} \rightarrow \text{Min}$$

$$\sin 0 = 0$$

$$\sin\left(\frac{\pi}{4}\right) = 1 \rightarrow \text{Max}$$

$$\sin\left(\frac{\pi}{4}\right) = \sin\left(\pi - \frac{\pi}{4}\right) = \sin\left(\frac{3\pi}{4}\right) = \frac{1}{\sqrt{2}}$$



$$-\frac{1}{\sqrt{2}} < \sin x < \frac{1}{\sqrt{2}} \Rightarrow -\frac{1}{\sqrt{2}} < \frac{m-1}{\sqrt{2}} < \frac{1}{\sqrt{2}} \Rightarrow -1 < m-1 < 1$$

$$\Rightarrow -1 < m < 2$$

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

$$1 + \sin 2x = \frac{1}{2} \Rightarrow \sin 2x = -\frac{1}{2}$$

$$\sin 2x = \frac{2 \tan x}{1 + \tan^2 x} = -\frac{1}{2} \Rightarrow 4 \tan^2 x - 1 \tan x + 1 = 0$$

$$4 \tan^2 x - 1 \tan x + 1 = 0 \Rightarrow \tan x = \frac{1 \pm \sqrt{1-16}}{8} = \frac{1 \pm \sqrt{-15}}{8}$$

$$C = \frac{y_{\min} + y_{\max}}{2} = \frac{-\frac{1}{\sqrt{2}} + \frac{1}{\sqrt{2}}}{2} = \frac{0}{2} = 0$$

مقدار C میان دو مقدار $y_{\min}$ و $y_{\max}$ قرار می‌گیرد.

$$C + |a| = \frac{1}{\sqrt{2}} \Rightarrow 1 + |a| = \frac{1}{\sqrt{2}} \Rightarrow |a| = \frac{1}{\sqrt{2}} - 1 \Rightarrow a = \pm \left(\frac{1}{\sqrt{2}} - 1\right) \Rightarrow aC = 1 \times \left(\frac{1}{\sqrt{2}} - 1\right) = \frac{1}{\sqrt{2}} - 1$$

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$$n\bar{x}_1 = \text{جمع } n \text{ داده اول}$$

$$n\bar{x}_2 = \text{جمع } n \text{ داده دوم}$$

$$-\bar{x}_1 = \bar{x}_2 - 4 \Rightarrow \bar{x}_1 + \bar{x}_2 = 4$$

$$\bar{x} = \frac{n\bar{x}_1 + n\bar{x}_2}{2n} = \frac{n}{n} \left(\frac{\bar{x}_1 + \bar{x}_2}{2} \right) = 1 \times \frac{4}{2} = 2$$

120 اول کتیف برکات وقد مطلق را در $x \rightarrow -1^+$ مسوئیت می کنیم

$$\lim_{x \rightarrow -1^+} \frac{(x+1)+(-1)}{x-0} = \frac{x}{x} = 1$$

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$$\lim_{x \rightarrow +\infty} \frac{\sqrt{ax}}{x} = \frac{1}{\sqrt{a}} \Rightarrow a = \frac{1}{\frac{1}{\sqrt{a}}} = \frac{1}{\sqrt{a}}$$

$$x \rightarrow -1^- \Rightarrow \frac{1}{x} \rightarrow -1^+ \Rightarrow \left[\frac{1}{x} \right] = -1$$

$$\lim_{x \rightarrow -1^-} \left[\frac{1}{x} \right] f(x) = -1 \times \sqrt{\frac{1}{4}(-1)^2 + (-1) + 1} = -1 \times \frac{1}{2} = -\frac{1}{2}$$

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$$f(1) = \frac{1\sqrt{1}}{1+1-1} = \frac{1}{1} \Rightarrow \lim_{x \rightarrow 1} \frac{f(x)-1}{x(1-x)} = \frac{f(1)-1}{1(1-1)} = \frac{0}{0} \xrightarrow{\text{Hop}}$$

$$\lim_{x \rightarrow 1} \frac{f'(x)}{x} = f'(1)$$

$$f'(x) = \frac{\frac{1}{2} (x+1) - (x(1-x))}{[x(1-x)]^2} = \frac{\frac{1}{2} - x}{x^2} = -\frac{1}{x^2}$$

@Aaazzii

۱۲۳ شب خط ۲ اسرے سب

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

$$1 = r(1) + b \Rightarrow b = -1$$

$$f'(n) = \frac{1(1) - a^2}{(a(1)+1)^2} \Rightarrow \frac{1-a^2}{(a+1)^2} = 2$$

$$\frac{(1-a)(1+a)}{(a+1)(a+1)} = 2 \Rightarrow \frac{1-a}{1+a} = 2 \Rightarrow 2+2a = 1-a$$

$$3a = -1 \Rightarrow a = -\frac{1}{3}$$

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 $a-b = -\frac{1}{3} + 1 = \frac{2}{3}$

پولیسٹریم پیرن ۰ و ۲- ریسٹن اول سلسلہ

$$f(n) = 1x^2 + 2an - 2b = 0$$

$$n=0 \Rightarrow 0 + 0 - 2b = 0 \Rightarrow b = 0$$

$$n=-2 \Rightarrow 12 - 4a - 0 = 0 \Rightarrow a = 3$$

$$y = x^2 + 3n^2 - 4$$

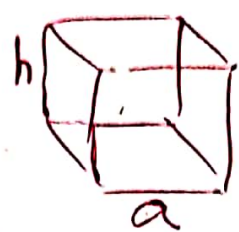
$$n=0 \Rightarrow y = 0 + 0 - 4 = -4$$

$$x=-2 \Rightarrow y = 4(-1)^2 + 3(-2)^2 - 4 = -1 + 12 - 4 = 7$$

$$A \begin{vmatrix} 1 & 0 \\ -1 & 2 \end{vmatrix} B \begin{vmatrix} 1 & 2 \\ 0 & 1 \end{vmatrix} \Rightarrow AB = \sqrt{1^2 + 2^2} = \sqrt{5} = 2\sqrt{5}$$

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$$V = \text{مساحت} \times \{w, l = a^2\} = F \Rightarrow h = \frac{F}{a^2}$$



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$$V = a^2 + \text{مساحت} \times \{w, l = a^2\} = a^2 + F a h$$

$$S = a^2 + F a h = a^2 + F a \left(\frac{F}{a^2}\right) = a^2 + \frac{F^2}{a}$$

$$S' = 2a + 17 \left(-\frac{1}{a^2}\right) = 0 \Rightarrow 2a = \frac{17}{a^2} \Rightarrow a^3 = 17 \Rightarrow a = \sqrt[3]{17}$$

$$h = \frac{F}{a^2} = \frac{F}{\sqrt[3]{17}^2} = 1$$

$$S = a^2 + F a h = \sqrt[3]{17}^2 + F(1)(1) = F + 1 = 17$$

د) $\hookrightarrow R R A R A R \Rightarrow F! F! = F \times F = F \wedge$

ه) $\hookrightarrow R A R A R R \Rightarrow F! F! = F \times F \times F \times F \times F \times F = F \times F = F \wedge$
 $F \wedge + F \wedge = 94$

(5-5)-(1-1) $\Rightarrow \frac{1}{5} \Rightarrow (5-5-1) \Rightarrow \frac{1}{\wedge}$
 (1-5)-(5-1) $\Rightarrow \begin{cases} 1-5 \Rightarrow (1-5-5)-(5-1-1-5) \Rightarrow F \times \frac{1}{14} \\ 1-1 \Rightarrow (1-1-5-5)-(5-1-1-5) \Rightarrow F \times \frac{1}{14} \\ 5-1 \Rightarrow (1-5-5-5)-(5-1-1-5) \Rightarrow F \times \frac{1}{14} \\ 5-5 \Rightarrow (x) \end{cases}$

$$\frac{1}{\wedge} + \frac{1}{\wedge} + \frac{1}{\wedge} = \frac{3}{\wedge}$$

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 BC $\hookrightarrow m_{BC} = \frac{11-3}{\sqrt{13}} = \frac{8}{\sqrt{13}} = 2 \Rightarrow y = 2m - 3 \Rightarrow 2m - y - 3 = 0$
 $A \mid q \quad 2m - y - 3 = 0 \Rightarrow AH = \frac{|2(1) + 9(-1) - 3|}{\sqrt{4+1}} = \frac{10}{\sqrt{5}} = \frac{10\sqrt{5}}{5} = 2\sqrt{5}$

۱۲۹ در دو مثلث CDE و BDE قاعده‌ها یعنی DE و ارتفاع h (فاصله بین دو خط موازی) با هم برابرند

$$S_{BDE} = S_{CDE} \Rightarrow \frac{S_{CDE}}{S_{BDE}} = 1 \quad \text{نسبت}$$

$$(x-1)^2 + (y+1)^2 - 4 - 1 = 0 \Rightarrow (x-2)^2 + (y+1)^2 = 5$$

$$C \begin{vmatrix} 2 \\ -1 \end{vmatrix} \quad R = \sqrt{5}$$

$$x^2 + (y-1)^2 - 1 = 2 \Rightarrow x^2 + (y-1)^2 = 3$$

$$C' = \begin{vmatrix} 0 \\ 1 \end{vmatrix} \quad R' = \sqrt{3}$$

$$d = CC' = \sqrt{2^2 + (1+1)^2} = 2\sqrt{2}$$

$$R - R' < d < R + R'$$

$$2, 2 - 1, 1 < 2(1, 2) < 2, 2 + 1, 1$$

$$0, 5 < 2, 1 < 3, 9$$

دو دایره متقاطع هستند

@Aaaz2ii

موفق باشید!!



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