

محمد حمید

✓ مؤلف و مدیر علمی کتابهای سه سطحی قانون و استنباطات مقادیر ریاضی

✓ ناظر علمی، طراح و مؤلف آزمونهای آزمایشی کشور

✓ دتتری ریاضی، مدیر و معاون پژوهشی مدارس برتر تهران و سا

✓ مدیر دانشگاه دارن - تنک سابقا - ریاضی

✓ مؤلف کتابهای ریاضی هر و ماه و جیبی سنبر

شماره تماس: ۰۹۱۴۷۱۳۳۶۸۷

instagram = math_hamidi

۱۱۱ - ۳

$$\begin{aligned} & \frac{\sqrt[4]{\sqrt[3]{2^8}} \times \sqrt[4]{162} \times \sqrt{4\sqrt{2}}}{\sqrt{6}} \\ \Rightarrow & \frac{\sqrt[4]{\sqrt[3]{2^8}} \times \sqrt[4]{162} \times \sqrt{2} \times \sqrt{2} \times \sqrt{\sqrt{2}}}{\sqrt{3}} = \frac{\sqrt[4]{\sqrt[3]{2^8}} \times 162^{\frac{1}{4}} \sqrt{2} \sqrt{\sqrt{2}}}{\sqrt{3}} \\ & = \frac{\sqrt[4]{\sqrt[3]{2^8}} \times 3^{\frac{1}{4}} \times 2^{\frac{1}{4}} \sqrt{2} \sqrt{\sqrt{2}}}{3^{\frac{1}{2}}} \Rightarrow \sqrt[4]{\sqrt[3]{2^8}} \times \sqrt{3} \times 2^{\frac{1}{4}} \sqrt{2} \sqrt{\sqrt{2}} \\ & = 2\sqrt{6} \end{aligned}$$

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مشابه: a, b, c $b-d$ $b+d$

$$\begin{aligned} \text{همین } b, \frac{1}{2}a, \frac{1}{4}c & \Rightarrow \frac{1}{4}(b-d)^2 = \frac{1}{4}b(b+d) \\ \Rightarrow & b^2 - 2bd + d^2 = b^2 + bd \\ & d = 3b \end{aligned}$$

$$2r = 2 \frac{\frac{b-d}{2}}{b} = -2$$

@math_hamidi

$$\frac{\omega}{m+2} \leq \frac{\Sigma}{m+1} \rightarrow \omega m + \omega \leq \Sigma m + 1 \Rightarrow m \leq 2 \Rightarrow m = \underline{1, 2}$$

2 = 114

$$(5-2m)x^2 - (2m+n-5)x < n \quad (-1, m-2)$$

$$m \in \mathbb{N}$$

3 = 114

$$\rightarrow (5-2m)x^2 - (2m+n-5)x - n < 0$$

$$x^2 - (-1+n)x - n < 0$$

$$5-2m > 0 \Rightarrow 5 > 2m \Rightarrow m < 2.5 \Rightarrow \begin{cases} m=1 \text{ } \times \\ \text{or} \\ m=2 \text{ } \checkmark \end{cases}$$

$$m+n = 2+0 = \underline{2} \checkmark$$

1 = 114

$$\text{ارتفاع} \rightarrow 3n+2 \rightarrow 3n+6$$

$$\text{عرض} \rightarrow n \rightarrow n+4$$

$$\frac{1}{2}(3n+6)(n+4) = \frac{9}{2} \times \frac{1}{2}n(3n+2)$$

$$2(3n^2 + 18n + 24) = 9(3n^2 + 2n) \Rightarrow 6n^2 + 36n + 48 = 27n^2 + 18n$$

$$\Rightarrow 21n^2 - 18n - 48 \Rightarrow \begin{cases} n=1 \text{ } \text{G.C.} \\ n = -\frac{4}{7} \text{ } \text{G.C.} \end{cases}$$

$$\hat{S} = \frac{1}{2} \times 2 \times 8 = \underline{8} \checkmark$$

@ math_hamidi

$$f(n) = n \quad g(n) = c + n$$

114

$$g(n) + 2f(3+n) = 3 + 2n$$

$$c + 2(3+n) = 3 + 2n$$

$$c = -3$$

$$g(n) = c = -3$$

$$\frac{f(-1)}{g(4)} = \frac{-1}{-3} = \frac{1}{3}$$

$$f(n) = \sqrt{a-n}$$

$$g(n) = 3-n$$

$$g \circ f = g(f(n))$$

114

$$f(0) = g(f(0)) \Rightarrow \sqrt{a} = 3 - \sqrt{a} \Rightarrow 2\sqrt{a} = 3$$

$$\sqrt{a} = \frac{3}{2} \Rightarrow a = \frac{9}{4} = 2,25$$

$$\sqrt{\frac{1}{\alpha}} + \sqrt{\frac{1}{\beta}} = 5 \rightarrow \frac{\sqrt{\beta} + \sqrt{\alpha}}{\sqrt{\alpha\beta}} = 5 \Rightarrow \frac{\alpha + \beta + 2\sqrt{\alpha\beta}}{\alpha\beta} = 25$$

$$\Rightarrow \frac{\frac{m+14}{36} + 2\sqrt{\frac{1}{36}}}{\frac{1}{36}} = 25 \Rightarrow m + 14 + 12 = 25$$

$$\boxed{m = -1}$$

$$\frac{c}{a} = -2 \checkmark$$

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$$y = \frac{n}{bx} \sqrt{a+bx^2}$$

$$\frac{a}{b} = \frac{1}{-1} = -1 \checkmark$$

$$-x \rightarrow y = -\sqrt{a+bx^2}$$

$$\left(-\frac{3}{5}, -\frac{4}{5}\right) \rightarrow -\frac{4}{5} = -\sqrt{a + \frac{9}{25}b} \rightarrow \frac{16}{25} = a + \frac{9}{25}b \Rightarrow a = 1$$

$$\left(-\frac{4}{5}, -\frac{3}{5}\right) \rightarrow -\frac{3}{5} = -\sqrt{a + \frac{16}{25}b} \rightarrow \frac{9}{25} = a + \frac{16}{25}b \Rightarrow \frac{7}{25} = -\frac{7}{25}b \Rightarrow b = -1$$

$$n \mid -5 < 2 < 3 < 10$$

$$y \mid 4-m > 2m+3 > m-2 > -10$$

$$\underbrace{4-m > 2m+3}_{1 > 3m \Rightarrow m < \frac{1}{3}} \quad \underbrace{2m+3 > m-2}_{m > -5} \quad \underbrace{m-2 > -10}_{m > -8}$$

① ⑤ ⑥

$$\textcircled{1} \cap \textcircled{5} \cap \textcircled{6} \rightarrow -5 \leq m \leq \frac{1}{3} \Rightarrow m = 0, -1, -2, -3, -4, -5$$

تعداد 6

$$(2, a+b) \cup (4b-a, 5)$$

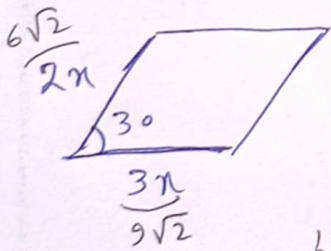
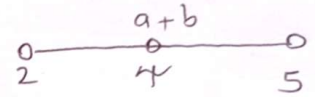
مساوی کردن

$$b-a=5$$

$$1 \mid 121$$

$$a + \frac{8}{5} = 5 \Rightarrow a = \frac{12}{5} \Rightarrow 4b-a=4$$

$$ab=8 \Rightarrow b = \frac{8}{5}$$



$$S = 2\pi \times 3\pi \times \sin^{1/2} 30^\circ = 3\pi^2 = 5/4$$

$$\pi^2 = 18$$

$$\pi = 3\sqrt{2}$$

$$b.p = 2 \times 15\sqrt{2} = 30\sqrt{2}$$

$$4 \mid 122$$

$$\alpha = 22,5 = \frac{\pi}{8}$$

$$A = -1 + \tan(\sqrt{\alpha})$$

$$A = -1 - \tan \frac{\pi}{8} = -1 - \frac{\frac{\sqrt{2}}{2}}{1 + \cos \frac{\pi}{4}} = -1 - \frac{\frac{\sqrt{2}}{2}}{1 + \frac{\sqrt{2}}{2}}$$

$$\tan \alpha = \frac{\sin 2\alpha}{1 + \cos 2\alpha}$$

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

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

$$2 \mid 123$$

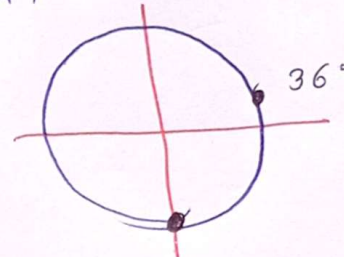
@math_harimidi

$$\sin 2n = \cos 3n$$

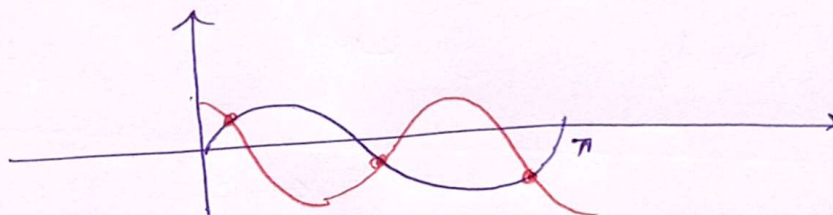
$$\begin{aligned} \downarrow \\ \cos\left(\frac{\pi}{2} - 2n\right) = \cos 3n \Rightarrow \begin{cases} 3n = \frac{\pi}{2} - 2n + 2k\pi \\ 3n = -\frac{\pi}{2} + 2n + 2k\pi \end{cases} \end{aligned}$$

$$n = \frac{\pi}{10} + \frac{2k\pi}{5}$$

$$n = -\frac{\pi}{2} + 2k\pi$$



$$\frac{\pi}{10}, \frac{5\pi}{10}, \frac{9\pi}{10}$$



115

$$\log_2 7 = 2,8$$

$$\downarrow \\ 2^{2,8} = 7$$

$$\log_5 2 = 0,5$$

$$\begin{aligned} \downarrow \\ 5^{0,5} &= 2 \\ \text{or} \\ 5 &= 2^2 \end{aligned}$$

$$\log_{14} 10$$

$$\downarrow \\ \log_{2 \times 7} 2^2 = \log_{2 \times 7} 2^3$$

$$\frac{3}{3,8} = \frac{30}{38} = \frac{15}{19}$$

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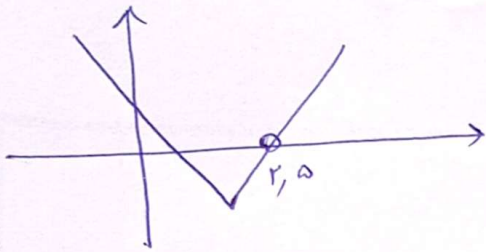
$$1,00, 1,08, 1,20, 1,16, 1,16$$

$$\bar{X} = \frac{5,60}{5} = 1,12$$

$$s^2 = \frac{0,0144 + 0,0016 + 0,0064 + 0,0016 + 0,0016}{5} = \frac{2,56}{5}$$

$$\Rightarrow s = \frac{16}{\sqrt{5}}$$

$$\Rightarrow CV = \frac{16}{\sqrt{5 \times 100}} = \frac{1}{7\sqrt{5}}$$



$$x = 2, 5: \frac{\frac{25}{2} + \frac{5}{2}a + b = 0}{10 - C = 0}$$

1 122

$$C = 10$$

$$\frac{5}{2}a + b = -\frac{25}{2}$$

$$f = \frac{C}{2}x$$

نقطه ۵، ۲
نقطه ۱، ۰

$$x = 1 \rightarrow \frac{2 + a + b}{-6} = 1 \Rightarrow \underline{a + b = 4}$$

۴ 123

$$\left. \begin{array}{l} (-2)^+ \xrightarrow{-1, 9} 2 \begin{bmatrix} 1, \dots \end{bmatrix} + a \begin{bmatrix} 0, \dots \end{bmatrix} \Rightarrow 2 \\ (-2)^- \xrightarrow{-2, 1} 2 \begin{bmatrix} 2, \dots \end{bmatrix} + a \begin{bmatrix} -1, \dots \end{bmatrix} \Rightarrow 4 - a \end{array} \right\} a = 2$$

$$\begin{bmatrix} a \\ 3 \end{bmatrix} = \begin{bmatrix} 2 \\ 3 \end{bmatrix} \Rightarrow \text{صفر}$$

۳ 129

$$(-1)^-: \frac{1 - k(-1)}{0^+} = \frac{1 + 2k}{0^+} = -\infty \Rightarrow k < -\frac{1}{2}$$

$$(-1)^+: \frac{1 - k(-1)}{0^-} = \frac{1 + k}{0^-} = -\infty \Rightarrow k > -1$$

$$-1 < k < -0,5$$

منفی

ناصبر، در حد منفی

منفی

ناصبر است

$$\lim_{n \rightarrow a} -(n-2a) = a = 2$$

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$$(n-a)(n-2a) = (n-2)(n-4) \Rightarrow \begin{cases} m = -6 \\ n = 8 \end{cases}$$

$$n-m = 8 - (-6) = 14$$

$$\begin{cases} f(4) = -4a+2 \\ f'(4) = -a \end{cases}$$

$$f = -ax + r$$

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$$\Rightarrow -4a+2-a = -1$$

$$-5a = -3 \Rightarrow a = 0,6 = -0,6$$

$$2\sqrt{x}(4x^2+3) = m x^{\sqrt{x}}$$

$$y = mx$$

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$$\begin{cases} 8x^2+6 = m\sqrt{x} \\ 16x = \frac{m}{2\sqrt{x}} \end{cases}$$

$$\div \quad \frac{8x^2+6}{16x} = 2x \rightarrow 8x^2+6 = 32x^2$$

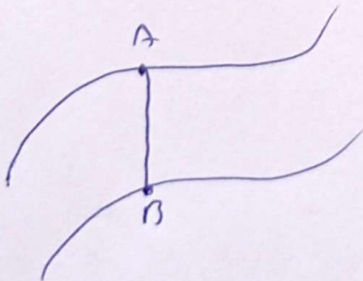
$$6 = 24x^2$$

$$x^2 = \frac{1}{4}$$

$$x = \pm \frac{1}{2} \Rightarrow x = \frac{1}{2}$$

$$\hookrightarrow 8 = \frac{m}{\frac{2}{\sqrt{2}}\sqrt{2}} \Rightarrow m = 8\sqrt{2}$$

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$$AB = x^2 + 2x + 4 \xrightarrow{x=-1} 1 - 2 + 4 = 3$$

@math_hamidi

$$\textcircled{1} \quad \frac{3}{5} \times \frac{6}{3} \times \frac{5}{1} = 90$$

5 3 1

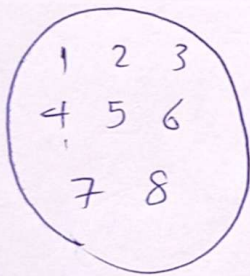
$$\textcircled{2} \quad \frac{1}{5} \times \frac{4}{3} \times \frac{5}{1} = 20$$

5 3 1 4 0

$$\textcircled{3} \quad \frac{1}{8} \times \frac{1}{0} \times \frac{1}{1}$$

7 8 0

مقدار $\Rightarrow 40 + 20 + 1 = 111$



$$\frac{21 + 3}{\binom{8}{3}}$$

$$= \frac{24}{56} = \frac{12}{28} = \frac{3}{7}$$

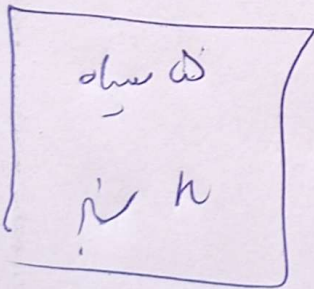
مقدار $\frac{1}{00} \quad \frac{1}{\binom{7}{2}} = 21$

مقدار $\frac{2}{00} \quad \frac{2}{\binom{3}{2}} = 3$

مقدار $\frac{3}{X}$

⋮

۳۱۳۴



$$1 - \frac{\binom{n}{2}}{\binom{n+5}{2}} = \frac{5}{6}$$

$$\frac{\frac{n(n-1)}{2}}{\frac{(n+5)(n+4)}{2}} = \frac{1}{6} \Rightarrow n = 4$$

@math-hamidi

$$\{+5\}n \rightarrow n < 9$$

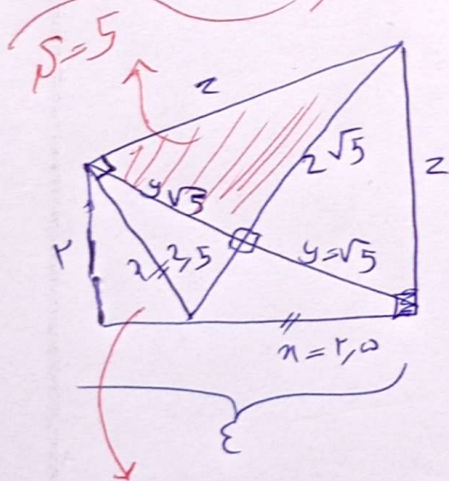
$$\frac{4}{7} = \frac{5}{9} = \frac{n}{3}$$

$$\begin{cases} y = \frac{35}{4} = 8, \dots \\ x = \frac{12}{7} = 1, \dots \end{cases}$$

$$\begin{cases} x = \frac{15}{7} = 2, \dots \\ y = \frac{18}{5} = 5, \dots \end{cases}$$

$$\frac{35}{4} - \frac{28}{5} = \frac{117 - 112}{20} = 3,15 \checkmark$$

3 → 12



$$ry^r = 14 + r = r_0 \rightarrow y = \sqrt{5}$$

$$\frac{25}{4} = 5 + s^2 \rightarrow s^2 = \frac{5}{4} \Rightarrow s = \frac{\sqrt{5}}{2}$$

$$5 = \frac{\sqrt{5}}{2} \times AE \Rightarrow \underline{AE = 2\sqrt{5}}$$

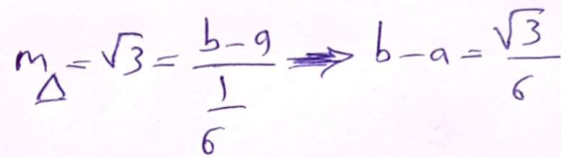
$$n^2 - 4 + n^2 - 8n + 16 \rightarrow 8n = 20$$

$$n = \frac{5}{2}$$

(a) $m\phi + h$ - hamiltonian



$$\frac{BE}{9} = \frac{\frac{27}{10} \sqrt{10}}{3\sqrt{10}} \Rightarrow BE = 8/1$$



$$\epsilon_0$$

آرزوی حقیقت و شادمانی در این راه می‌گذرد

۱۴،۵ باب تہریں تہریں تہریں تہریں تہریں

قسم : اکر ما

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