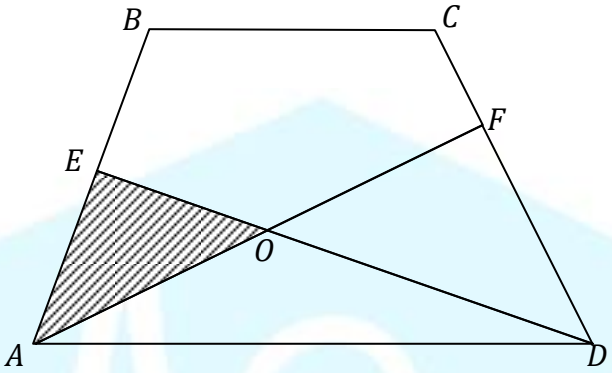
ATTESTATSIYA ORIGINAL TEST SAVOLLARI

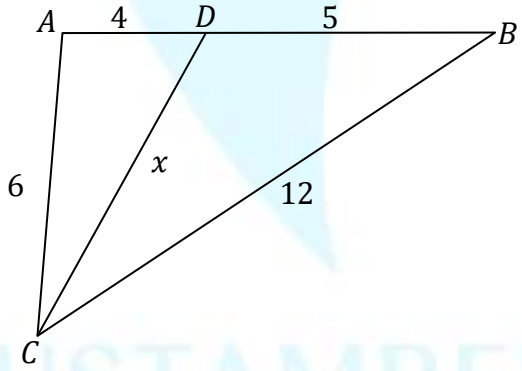
ATTESTATSIYA 2025 (28.04.2025)

1. $ABCD$ trapetsiyaning AB va CD yon tomonlaridan E va F nuqtalar olingan bo'lib, bunda AF va ED kesmalar O nuqtada kesishadi. Agar : $BC = 2:1$, $AE:AB = 1:2$, $FD:CD = 2:3$ va trapetsiya yuzi 30 ga teng bo'lsa, AOE uchburchak yuzini toping.



A) 10
B) $\frac{5}{2}$
C) $\frac{20}{3}$
D) $\frac{10}{3}$

2. ABC uchburchakning AB tomonidan D nuqta olindi. Bunda $AD = 4$, $DB = 5$, $BC = 12$ va $AC = 6$ ga teng bo'lsa, CD kesma uzunligini toping.



A) 6
B) 8
C) 7
D) 9

3. Birinchi idishda 5 ta yaroqli 5 ta yaroqsiz, ikkinchi idishda 7 ta yaroqli 3 ta yaroqsiz va uchinchi idishda 9 ta yaroqli 1 ta yaroqsiz detal bo'lsa, ixtiyoriy olingan detal yaroqli bo'lsa, bu detalning birinchi idishda bo'lish ehtimolligini toping.
A) 0,6
B) 0,7
C) 0,8
D) 0,2

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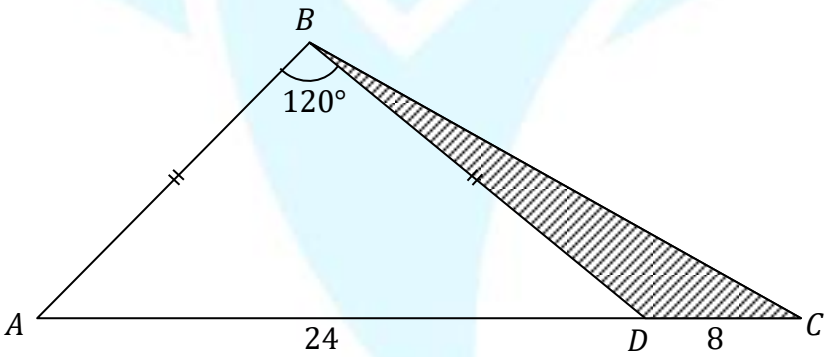
4. 3 ta idish bor. Birinchi idishda 5 ko'k va 3 ta qizil, ikkinchi idishda 4 ta ko'k va 4 ta qizil, uchinchi idishda 5 ta qizil va 3 ta ko'k sharlar bor. Tavakkaliga 1 ta idish olindi. Uning ichidan tanlangan sharning qizil bo'lish ehtimolligini toping.

A) $\frac{1}{4}$
B) $\frac{1}{3}$
C) $\frac{1}{2}$
D) $\frac{3}{4}$

5. $(x+y)^n$ ning koeffitsientlari yig'indisi 4096, ko'phadning eng katta koeffitsientni toping.

A) 792
B) 864
C) 924
D) 936

6. Rasmdagi ma'lumotlar asosida BDC uchburchak yuzini toping.



A) $18\sqrt{3}$
B) $16\sqrt{3}$
C) $15\sqrt{3}$
D) $24\sqrt{3}$

7. $\sin 20° \cdot \sin 40° \cdot \sin 80°$ ni hisoblang.

A) $\frac{\sqrt{3}}{4}$
B) $\frac{\sqrt{3}}{8}$
C) $\frac{\sqrt{3}}{16}$
D) $\frac{\sqrt{3}}{2}$

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8. 4 xil ruchkadan 7 ta ruchkani necha xil usulda tanlab olish mumkin.

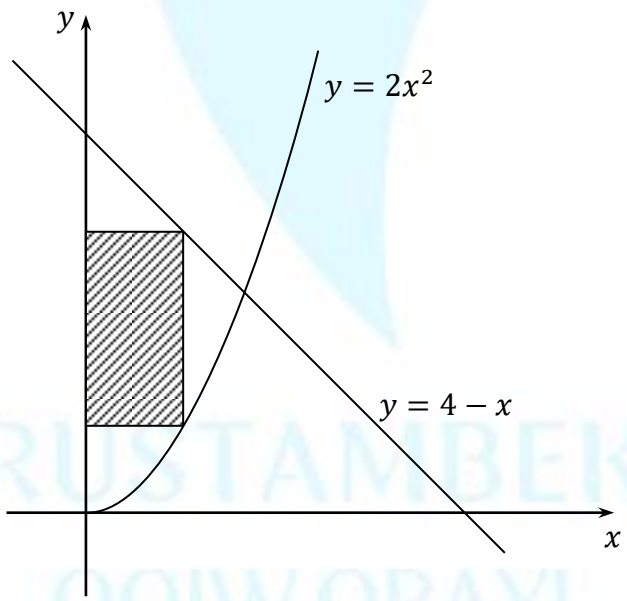
A) 120
B) 56
C) 16384
D) 2401

9. Tenglamaning $[0;\pi]$ kesmadagi ildizlari yig'indisini hisoblang.

$$\sin 3x \cdot \cos 2x - \cos 3x \cdot \sin 2x = \frac{1}{2}$$

A) π
B) $\frac{3\pi}{2}$
C) $\frac{2\pi}{3}$
D) ildizi yo'q

10. Rasmda $y = 2x^2$ va $y = 4 - x$ funksiya grafiklari tasvirlangan. To'g'ri to'rtburchakning eng katta qiymatini toping.



A) $\frac{35}{22}$
B) $\frac{44}{27}$
C) $\frac{47}{26}$
D) $\frac{49}{35}$

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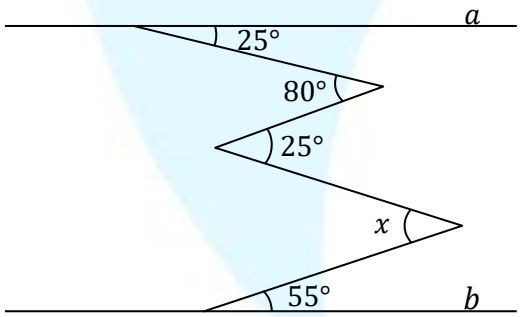
11. $\sqrt{-x^2+6x-4} > x-4$ nechta butun son tengsizlikni qanoatlantiradi?
A) 1
B) 2
C) 3
D) 4

12. $y=-x^2+2x$ funksiyani Ox o'qi atrofida aylantirishdan hosil bo'lgan jism hajmini toping.
A) $\frac{15\pi}{14}$
B) $\frac{17\pi}{16}$
C) $\frac{16\pi}{15}$
D) $\frac{13\pi}{12}$

13. $a||b$ bo'lsa, $x=$?



A) 35
B) 20
C) 25
D) 30

14. $g(x)=x^3f(x)$ kamayuvchi funksiya bo'lsa, quyidagilardan qaysi biri doimo o'rinli bo'ladi?
A) $f(x)>f'(x)$
B) $xf'(x)<-3f(x)$
C) $f'(x)>f(x)$
D) $x^2f(x)>xf'(x)$

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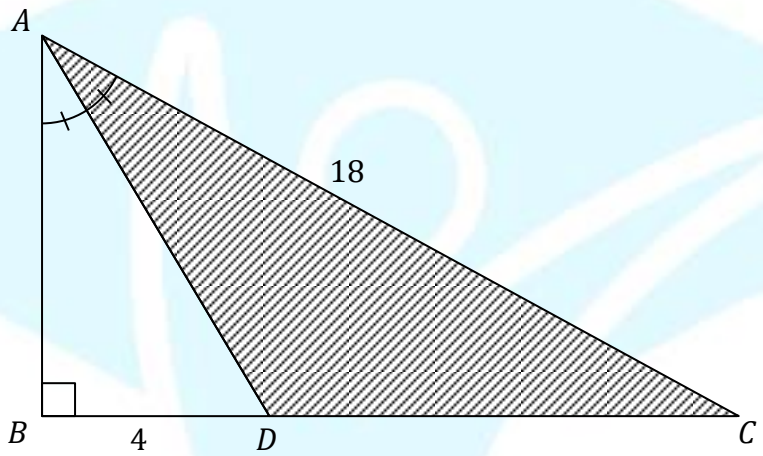
15. Maktab oshxonasida 4 xil shirinlik bor. O‘quvchi 5 ta shirinlikni necha xil usul bilan tanlashi mumkin?
A) 1024
B) 625
C) 56
D) 120

16. Quyidagi rasmda ABC to'g'ri burchakli uchburchak tasvirlangan:



AD – bissektirisa, $BD = 4$ va $AC = 18$ bo'lsa, bo'yalgan sohaning yuzini toping.
A) 72
B) 18
C) 27
D) 36

17. Hisoblash laboratoriyasida 6 ta klavishli avtomat va 4 ta yarimavtomat bor. Biror hisoblash ishini bajarish davomida avtomatning ishdan chiqmaslik ehtimoli 0,95 ga teng; yarim avtomat uchun bu ehtimol 0,8 ga teng. Student hisoblash ishini tavakkaliga tanlagan mashinada bajardi. Hisoblash tugaguncha mashinaning ishdan chiqmaslik ehtimolini toping.
A) 0,89
B) 0,76
C) 0,19
D) 0,04

18. $2^{80} + 3^{80}$ yig'indining 11 ga bo'lgandagi qoldiqni toping.
A) 0
B) 1
C) 10
D) 2

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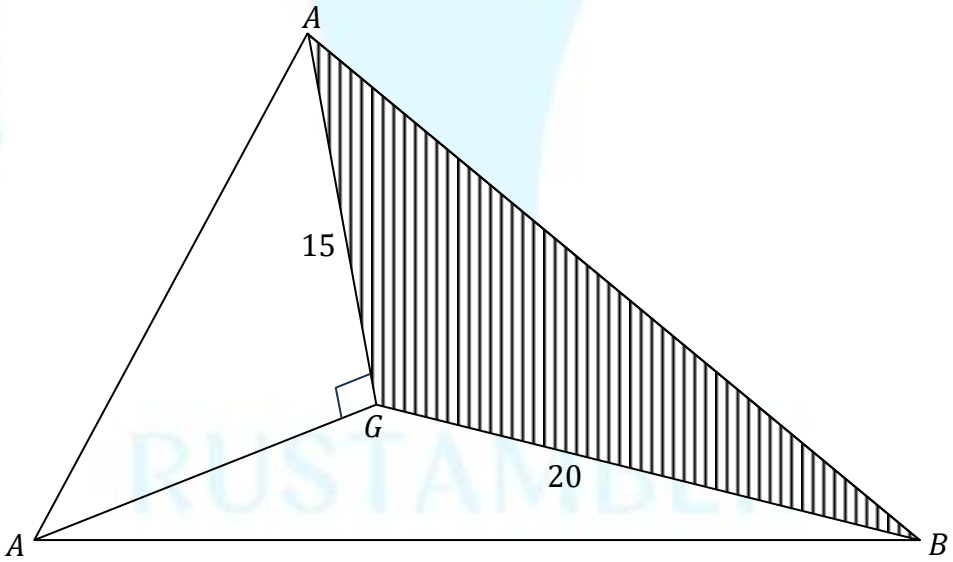
19. Piramida asosi tomonlari 6, 8 va 10 bo'lgan uchburchakdan iborat. Piramidaning barcha ikki yoqli burchaklari $60°$ ga teng bo'lsa, uning hajmini toping.

A) 16
B) 32
C) $48\sqrt{3}$
D) $16\sqrt{3}$

20. $\sqrt{(\sqrt{5}-\sqrt{3})\sqrt{\sqrt{8+\sqrt{60}}(\sqrt{5}+\sqrt{3})}}$ ni hisoblang.

A) 2
B) $\sqrt{2}$
C) $2\sqrt{2}$
D) 4

21. ABC uchburchakda G og'irlik markazi. Bunda $AG \perp CG$, $CG = 15$ va $BG = 20$ ga teng bo'lsa, BGC uchburchak yuzini toping.



A) $\frac{75\sqrt{7}}{2}$
B) $\frac{77\sqrt{7}}{2}$
C) $36\sqrt{5}$
D) $37\sqrt{5}$

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22. $\log_3(3^x - 1) \cdot \log_3(3^{x+1} - 3) = 6$ tenglama nechta haqiqiy ildizga ega?
A) 0
B) 1
C) 2
D) 3

23. Agar $\pi \int_0^1 \frac{1}{1+e^{-x}} dx = A$ bo'lsa, $\int_{-1}^0 \frac{1}{1+e^{-x}} dx$ ni A orqali ifodalang.
A) $\frac{\pi+A}{\pi}$
B) $\frac{\pi-A}{A}$
C) $\frac{\pi-A}{\pi}$
D) $\frac{\pi+A}{A}$

24. Agar $P(0) = 5$ va $(2x-3) \cdot P(x-2) - (x+1) \cdot P(x-2) = 2x+3$ ga teng bo'lsa, $P(-1)$ ning qiymatini toping.
A) $-\frac{2}{3}$
B) $\frac{2}{3}$
C) 1
D) $\frac{1}{3}$

25. Agar $f(x) = \begin{cases} 2x+3, & x \geq 2 \\ 2x-5, & x < 2 \end{cases}$ ga teng bo'lsa, $\int_2^4 f(x-1)\,dx$ ni hisoblang.
A) 10
B) 12
C) 14
D) 16

26. Guruhda 8 ta o'g'il bola va 5 ta qiz bola bor. Guruhdan 6 ta bolani necha xil usulda ajratib olish mumkin(ajratilgan bolalardan ikkitasi qiz bola bo'lishi shart)
A) 100
B) 640
C) 700
D) 30

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27. a va b natural sonlar uchun $EKUB(a;b)=6$ va $EKUK(a;b)=60$ bo'lsa, $a+b$ ning qabul qilishi mumkin bo'lgan qiymatlar yig'indisini toping.
A) 66
B) $12\sqrt{10}$
C) 108
D) 160

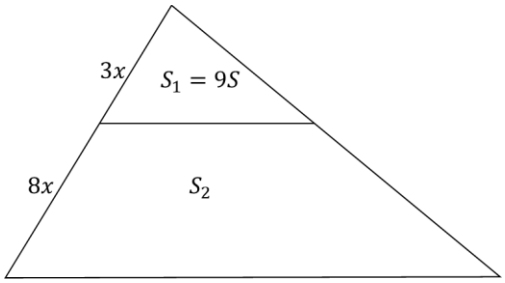
28. a va b natural sonlar uchun $EKUB(a;b)=6$ va $EKUK(a;b)=60$ bo'lsa, $a+b$ ning eng katta qiymatini toping.
A) 66
B) $12\sqrt{10}$
C) 42
D) 82

29. $cos^2x-\frac{\sqrt{2}}{2}<\sin^2 x$ tengsizlikning $[0;\pi]$ kesmadagi ildizlari yig'indisini toping.
A) $\frac{\pi}{6}$
B) $\frac{5\pi}{6}$
C) $\frac{2\pi}{3}$
D) π

30. Perimetri 63 cm bo'lgan uchburchak asosiga parallel to'g'ri chiziq orqali kichik uchburchak ajratilgan. Kichik uchburchak perimetri 21 cm, yuzasi esa 18 cm^2 bo'lsa, katta uchburchak yuzasini toping.
A) 63
B) 81
C) 144
D) 162

31. 2 xil ruchkadan 3 ta ruchkani necha xil usulda olish mumkin?
A) 3
B) 4
C) 5
D) 6

32. $S_2-S_1=206$ bo'lsa, S_2 =?



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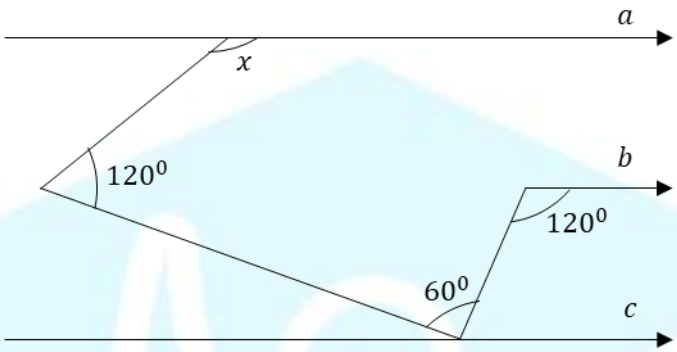
A) 224
B) 336
C) 112
D) 206

33. $a \parallel b \parallel c$ bo'lsa, $x =$?



A) 60^0
B) 120^0
C) 150^0
D) 80^0

34. Muntazam uchburchakli piramidada apofema 6 ga, yon yog'i asos tekisligi bilan 60^0 tashkil qiladi. Yon sirtining yuzini toping.
A) $6\sqrt{3}$
B) $18\sqrt{3}$
C) $27\sqrt{3}$
D) $54\sqrt{3}$

35. Ixtisoslashgan kasalxonaga 50% bemor K kasallik bilan, 30% bemor L kasallik bilan, 20% bemor M kasallik bilan keladi. K kasallikdan tuzalish ehtimoli 0,7, L kasallikdan tuzalish 0,8 va M dan tuzalish 0,9 ehtimollikda. Kasalxonaga bemor kelib butunlay sog'ayib ketti va shu bemorni K kasallik bilan kelganlik ehtimolligini toping.
A) $\frac{7}{11}$
B) $\frac{10}{11}$
C) $\frac{5}{11}$
D) $\frac{3}{11}$

36. Nishonga urish ehtimoli 0,6 ga. Ikkita ovchiga ikkitadan o'q berildi, bitta o'qning nishonga tegish ehtimolligini toping.
A) 0,0644
B) 0,1536
C) 0,2046
D) 0,1784

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37. Agar $xy = 165$, x va y natural sonlar o'zaro tub sonlar bo'lsa, $\frac{EKUB(x;y)+EKUK(x;y)}{x+y}$ ning eng katta qiymatini toping.

A) $5\frac{4}{13}$
B) $7\frac{8}{13}$
C) $6\frac{5}{13}$
D) $4\frac{4}{13}$

38. $y = 2\sqrt{x}$, $y = 1$ va $x = 0$ chiziqlar bilan chegaralangan shaklning Ox o'qi atrofida aylantirishdan hosil bo'lgan jism hajmini toping.

A) π
B) $\frac{\pi}{4}$
C) $\frac{\pi}{8}$
D) $\frac{\pi}{2}$

39. Tengsizlikni yeching: $\sqrt{-x^2 + 6x - 5} > 2x - 8$

A) $[4; 5]$
B) $[4; 4{,}6)$
C) $(3; 4{,}6)$
D) $[1; 4{,}6)$

40. 8 ta yo'lovchini bitta 4 kishilik va bitta 6 kishilik qayiqda daryodan necha xil usulda olib o'tkazish mumkin?

A) 45
B) 39
C) 47
D) 36

41. Arifmetik progressiya dastlabki 15 ta hadi yig'indisi 180 ga teng. Uchinchi, oltinchi va to'qqizinchi hadlari geometrik progressiyani tashkil etsa, arifmetik progressiyaning birinchi hadini toping.

A) 10
B) 11
C) 12
D) 13

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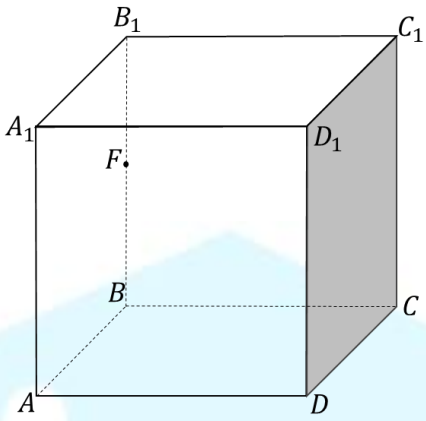
42. $ABCDA_1B_1C_1D_1$ kub F nuqta BB_1 ning yarmiga teng. $AF = 4\sqrt{6}$ ga teng bo'lsa, kub yon sirtini toping.



A) 307,2
B) 307,5
C) 308,5
D) 308,2

43. Qirrasi 4 ga teng bo'lgan muntazam tetraedrning asosiga chizilgan aylana markazi orqali yon yog'iga parallel bo'lgan tekislik bilan kesilgan. Hosil bo'lgan kesim yuzasini toping.
A) $\frac{8}{3\sqrt{3}}$
B) $\frac{5}{3\sqrt{3}}$
C) $\frac{16}{3\sqrt{3}}$
D) $\frac{7}{3\sqrt{3}}$

44. $y = x^2 - x - 4$ funksiyaning $x = 2$ to'g'ri chiziqqa nisbatan simmetrigini toping.
A) $y = x^2 - 7x + 8$
B) $y = x^2 + 7x + 8$
C) $y = x^2 + 7x - 8$
D) $y = x^2 - 7x - 8$

45. $y = x^2 - 6x + 7$ va $y = -x^2 - 4x - 5$ parabolalarning uchlari orasidagi masofani toping.
A) $\sqrt{23}$
B) $\sqrt{24}$
C) $\sqrt{25}$
D) $\sqrt{26}$

46. $1 - \sin x - \cos 2x = 0$ tenglamaning $[0; 2\pi]$ oraliqdagi yechimlari yig'indisini toping.
A) $\frac{19\pi}{6}$
B) 2π
C) $\frac{11\pi}{6}$
D) 4π

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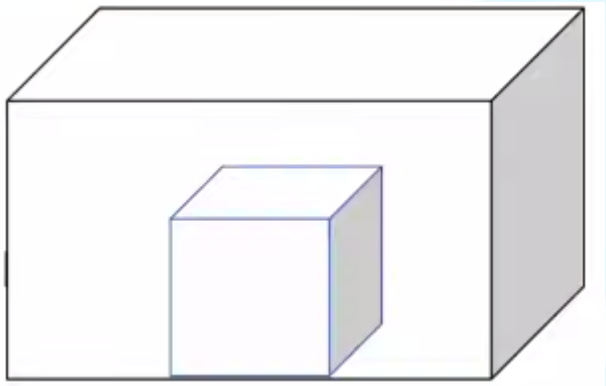
47. $3^{79821} + 6$ ni 17 ga bo'lgandagi qoldiqni toping.
A) 11
B) 12
C) 13
D) 14

48. Asosining tomonlari 16 va 24 cm bo'lgan parallelepipedning ichiga oz miqdorda suv quyilgan. Parallelepiped ichiga qirrasining uzunligi 12 cm bo'lgan kub asosiga tegadigan qilib botirildi. Natijada suvning sathi kubning yarmigacha ko'tarilgan bo'lsa, suvning dastlabki sathi necha cm?



A) 2,75
B) 6
C) 3,75
D) 2,25

49. Mijoz 60% bilan qanchadir pul qo'ydi. Lekin 4 oydan keyin pulini foizi bilan 330000 so'm qilib oldi. Boshida necha so'm qo'ygan?
A) 270000
B) 273000
C) 275000
D) 277000

50. Birinchi jo'mrak orqali 1 sekundda harorati 15℃ bo'lgan 4 ml suv tushadi. Ikkinchi jo'mrak orqali 1 sekundda harorati 19℃ bo'lgan 5 ml suv tushadi. Ikkala jo'mrak bir vaqtda ochilsa, birgalikda 20 sekundda harorati necha ℃ bo'ladi?
A) $16\frac{1}{9}$
B) $17\frac{1}{9}$
C) $16\frac{2}{9}$
D) $17\frac{2}{9}$

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51. $y = x^2 + 5x + 3$ funksiyaning $y = 2$ to'g'ri chiziqqa nisbatan simmetrigini toping.
A) $y = -x^2 - 5x + 1$
B) $y = x^2 - 5x + 1$
C) $y = -x^2 + 5x - 1$
D) $y = x^2 - 5x - 1$

52. $\frac{Q(x)+4x+10}{P(x)+1} = x^2 + 1$ berilgan, $Q(x-1)$ ko'phadni $x - 3$ ga bo'lgandagi qoldiq 10 ga teng bo'lsa, $P(x)$ ko'phadni $x - 2$ ga bo'lgandagi qoldiqni toping.
A) $\frac{25}{8}$
B) $\frac{28}{5}$
C) $\frac{23}{5}$
D) $\frac{5}{24}$

53. Birinchi idishda 4 ta qizil 4 ta ko'k shar bor. 2-idishda 3 ta qizil 4 ta ko'k shar, 3-idishda 5 ta qizil 3 ta ko'k shar bor. Uchala idishdan tavakkaligaolingan 1 ta shar qizil bo'lish ehtimolini toping.
A) $\frac{1}{3}$
B) $\frac{1}{168}$
C) $\frac{87}{168}$
D) $\frac{87}{56}$

54. R radiusli aylana tomonlari a, b, c ga teng bo'lgan muntazam 4,6,8 burchaklarga tashqi chizilgan. $a^2 + b^2 + c^2$ ni toping.
A) $R^2(2 + \sqrt{5})$
B) $R^2(2 - \sqrt{5})$
C) $R^2(5 + \sqrt{2})$
D) $R^2(5 - \sqrt{2})$

55. $\left(\sqrt[3]{x} + \frac{1}{x}\right)^n$ binomial yoyilmasining 5 hadi(boshidan) o'zgarmas bo'lsa, uning eng katta koeffitciyentini toping.
A) 12870
B) 13800
C) 9056
D) 12150

56. 6 ta ajtyor va 4 ta aktresalar guruhidan kamida 2 ta aktrisa qatnashgan 6 kishilik nechta guruh shaklillashtirsa bo'ladi?
A) 180
B) 225
C) 105
D) 185

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57. Tengsizlikni yeching: $\cos^2 x \leq \frac{\sqrt{2}}{2} + \sin^2 x$

A) $\pi k + \frac{\pi}{8} < x < \frac{7\pi}{4} + \pi$

B) $\pi k + \frac{\pi}{4} < x < \frac{7\pi}{2} + \pi$

C) $\pi k + \frac{\pi}{8} \leq x < \frac{7\pi}{4} + \pi$

D) $\pi k + \frac{\pi}{8} < x \leq \frac{7\pi}{4} + \pi$

58. $(x+y)^n$ ning koeffitsiyentlari yig'indisi 4096, eng katta koeffitsiyentini toping.

A) 924

B) 925

C) 365

D) 886

59. Iqtisodchilarning fikriga qaraganda, yuqori iqtisodiy o'sish davrida Amerika dollarining o'sish ehtimoli 0.7, o'rtacha o'sish davrida esa 0.2 ga teng ekan. Iqtisodiy o'sish davri ko'rsatkichlari yuqori, o'rtacha va past bo'lish ehtimolliklari mos ravishda 0.3,0.5,0.2 ga teng. Aytaylik, hozir dollarning narxi o'smoqda. U holda hozirgi davr yuqori ko'rsatkichli iqtisodiy o'sish davri bo'lish ehtimoli qancha?

A) $\frac{7}{15}$

B) $\frac{72}{100}$

C) $\frac{12}{100}$

D) $\frac{15}{82}$

60. Piramidaning asoslari 6,8,10 ichki yoqli burchagi 60^0 bo'la,piramidaning hajmini toping.

A) $16\sqrt{3}$

B) 24

C) $24\sqrt{3}$

D) 16

61. $y = 2\sqrt{x}$ va $y = 1, x = 0$ chiziqlar bilan chegaralangan shaklni Ox o'qi atrofida aylantirishdan hosil bo'lgan jism hajmini toping.

A) 54

B) 64

C) 82

D) 77

62. Arifmetik progressiya dastlabki 15 ta hadi yig'indisi 180 ga teng; $3-$,$6-$,$9-$hadlari geometrik progressiyani tashkil etsa, arifmetik progressiya $1-$hadini toping.

A) 15

B) 9

C) 12

D) 21

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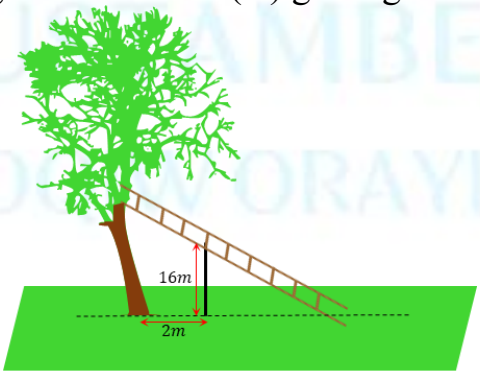
63. $12^{1479} + 14^{1358}$ ni 13 ga bo'lgandagi qoldiqni toping.
A) 0
B) 2
C) 7
D) 11

64. Tengsizlikni yeching: $\log_{\sqrt{3}}(x-1) - \log_{\sqrt{3}}(x+1) > \log_3 4$
A) $(-3;-1)$
B) $(-2;1)$
C) $(0;3)$
D) $(-2;1)$

65. Ko'rxona 300 000 ming so'mdan mahsulot sotib oldi. 20% yaroqsiz chiqdi. Yaroqsiz mahsulotni 10% zarariga sotdi. Hamma mahsulotdan 20 % foyda ko'rdi. Qolgan mahsulotni qanchadan sotgan?
A) 306 000
B) 54 000
C) 120 000
D) 360 000

66. Ikki kishi soat 9 va 10 oraliqda ko'rishishga kelishishdi birinchisi kelgani 15 daqiqa kutadi va kelmasa ketadi ularni ko'rishish extimolini toping.
A) $\frac{7}{8}$
B) $\frac{7}{16}$
C) $\frac{9}{14}$
D) $\frac{2}{9}$

67. Rasmdagi daraxtga chiqish uchun ishlatiladigan narvon sirpanib ketmasligi uchun daraxtdan 2 metr masofada 16 metr uzunlikdagi yog'och blokdan foydalanilgan, Shunga ko'ra, narvonning uzunligi eng kamida necha (m) ga teng bo'ladi?



A) $10\sqrt{3}$
B) $8\sqrt{3}$
C) $12\sqrt{5}$
D) $10\sqrt{5}$

ATTESTATSIYA ORIGINAL TEST SAVOLLARI

68. Uchta quti, birinchisida 5 ta yaroqli 5 ta yaroqsiz, 2 da 7 ta yaroqli 3 ta yaroqsiz, uchda 9 ta yaroqli 1 ta yaroqsiz, tavakkal bitta idishdan bitta detal olsam yaroqli chiqadi, shuni 1 chi idishdan bo‘lish ehtimolini toping

A) $\frac{5}{21}$
B) $\frac{17}{18}$
C) $\frac{7}{18}$
D) $\frac{19}{22}$

69. 5 ta usta 20 kunda 5 ta shogirt 30 kunda tugatsa, 2 ta usta2 ta shogirdi necha kun da tugatadi?

A) 30 kun
B) 15 kun
C) 22 kun
D) 18 kun

70. $ABCD$ to’g’ri burchakli trapetsiyada balandlik 6 ga teng, trapetsiya yon tomoni va katta asoslari teng. Kichik asosining qanday qiymatida trapetsiya eng kichik yuzaga erishadi.

A) $2\sqrt{3}$
B) 10
C) 6
D) $3\sqrt{5}$