(99)-813-77-76

ENG MUHIM MAQSADLARINGIZNI BILING!!!

MATEMATIKADAN

Baza

(2019-YIL)

TOSHKENT 2019

1. $\sqrt{4^{15}+6^{16}+9^{16}}-\sqrt{4^{15}-6^{16}+9^{16}}$ ifodani soddalashtiring.
A) $2\cdot9^8$ B) $2\cdot3^{15}$ C) 3^{15} D) 2^{16}

2. Turistik firma uch kunlik avtobusda sayohat tashkil qildi. Bir kishi uchun ekskursiya narxi 3500 so'm. Guruhlarga chegirmalar joriy etildi, yani 3 dan 10 kishigacha – 5%, 10 kishidan ortiq bo'lsa – 10%. 6 kishidan iborat guruh necha so'm harajat qilgan.
A) 20900 B) 19950 C) 19900 D) 20950

3. 3 ga bo'lganda 1 qoldiq qoladigan dastlabki o'n yettita toq natural sonlar yig'indisini toping.
A) 935 B) 833 C) 736 D) 820

4. $(x^3-4x)\cdot\sqrt{x+1}>0$ tengsizlikning eng katta butun manfiy yechimini toping.
A) -3 B) ∅ C) -2 D) -1

5. Ifodani soddalashtiring:
$2\cdot\cos\left(\frac{\pi}{6}-\frac{\alpha}{4}\right)\cdot\sin\left(\frac{\pi}{3}-\frac{\alpha}{4}\right)\cdot sin\frac{\alpha}{4}$
A) $\frac{1}{2}sin\frac{\alpha}{2}$ B) $\frac{1}{2}sin\frac{3\alpha}{2}$ C) $\frac{1}{2}sin\frac{3\alpha}{4}$ D) $\frac{1}{4}sin\frac{3\alpha}{4}$

6. Agar $\log_{30}3=a$ va $\log_{30}5=b$ bo'lsa, $\log_{30}4$ ni a va b orqali ifodalang.
A)2a+2ab-2b B)2-2a-2b C)1-a-b D)2+2a-2b

7. a·b·c=5 bo'lsa,
$\left(\frac{2}{a}-b\cdot c\right)\cdot\left(\frac{4}{b}-a\cdot c\right)\cdot\left(\frac{3}{c}-a\cdot b\right)$ ko'paytmani qiymatini toping.
A) 1 B) $\frac{2}{3}$ C) $-\frac{6}{5}$ D) $-\frac{5}{3}$

8. $a^2-b^2+a+7b-12$ ko'phadning ko'paytuvchilardan birini toping.
A) a+b+4 B) a+b-3 C) a-b+3 D) a+b+3

9. Tenglamani yeching. $\cos^2x-\sin^2x=-\frac{1}{2}$
A) $\pm\frac{5\pi}{3}+\pi k, k\in Z$ B) $\pm\frac{5\pi}{6}+\pi k, k\in Z$
C) $\pm\frac{5\pi}{3}+2\pi k, k\in Z$ D) $\pm\frac{\pi}{3}+\pi k, k\in Z$

10. Tenglamaning ildizlari yig'indisini toping.
$\log_2(2-x)-\log_2\left(2-\sqrt{x}\right)=\log_2\sqrt{2-x}-0{,}5$
A) $\frac{16}{9}$ B) $\frac{29}{45}$ C) $\frac{80}{45}$ D) $\frac{13}{4}$

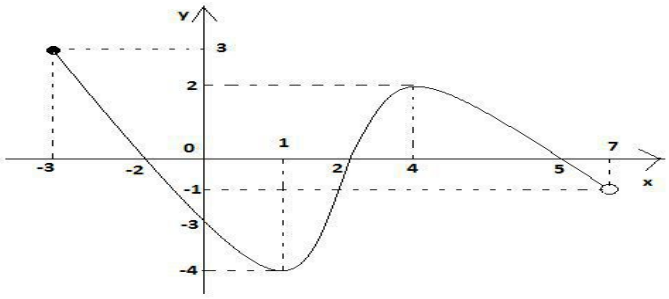
11. Tenglamalar sistemasini yeching.
$\begin{cases}(x+xy^2+y^2)(x+y^2)^2=225\\(x-xy^2+y^2)(x+y^2)^2=25\end{cases}$
A) (4;1), (4;-1) B) (1;2), (1;-2)
C) (-4;1), (4;-1), (1;2), (1;-2)
D) (4;1), (4;-1), (1;2), (1;-2)

12. $2^{\log_{0,8}(x)\cdot\log_{0,8}(1,25x)}>1$ tengsizlikni yeching.
A) (1;∞) B) (0;1,25)∪(3;∞)
C) (0;0,8)∪(1;∞) D) (0,8;1)

13. $x+6<\sqrt{x+18}$ tengsizlikni yeching
A) [-18;16) B) [-18;-1) C) (-18;-2) D) [-18;-2)

14. Yon tomoni 41 sm , balandligi 40 sm va o'rta chizig'i 45 sm bo'lgan teng yonli trapetsiyaning asoslarini toping.
A)38sm, 52sm B)42sm, 48sm
C)36sm, 54sm D)24sm, 66sm

15. Grafik ko'rinishda berilgan funksiyaning qiymatlar to'plamini toping.



A) [-4;-1)∪(-1;3] B) [-3;7)
C) [-3;-2]∪[2;5] D) [-4;3]

16. $y=x^5-5x^4-2$ funksiyaning (-1;1) oraliqdagi eng katta qiymatini toping.
A)-50 B)-1 C)∅ D)-2

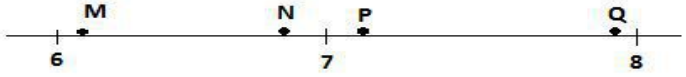
17. $\int_0^{\frac{\pi}{2}}\sin(2x+\frac{\pi}{3})dx$ integralni hisoblang.
A)0,25 B)1,5 C)1,25 D)0,5

18. Bir burchagi 60^0 bo'lgan to'g'ri burchakli uchburchakka tomoni 6 sm ga teng bo'lgan romb shunday ichki chiziganki, 60^0 li burchak ular uchun umumiy, rombning barcha uchlari uchburchakning tomonlarida yotadi. Uchburchakning katta tomoni uzunligini toping.
A) 18sm B) 12sm C) 16sm D) 24sm

19. Muntazam uchburchakka tomoni 1 ga teng bo'lgan kvadrat ichki chizilgan. Uchburchakning tomonini toping.
A) $\frac{2\sqrt{3}+9}{3}$ B) $\frac{2\sqrt{3}+9}{6}$ C) $\frac{2\sqrt{3}+3}{3}$ D) $\frac{2\sqrt{3}+3}{6}$

20. Piramidaning asosi tomoni 4 ga teng bo'lgan muntazam uchburchakdan iborat. Uning ikkita yon yoqlari asos tekisligiga perpendikulyar bo'lib, ular teng yonli to'g'ri burchakli uchburchakdan iborat. Piramida yon sirtining yuzini toping.
A) $16+4\sqrt{7}$ B) $12+4\sqrt{7}$ C) $12+4\sqrt{7}$ D) $16+\sqrt{7}$

21. Koordinata to'g'ri chizig'ida $\sqrt{39}$ songa mos nuqta belgilangan. Bu qaysi nuqta



A)Q nuqta B)M nuqta C)N nuqta D)P nuqta

22. A={1;3;5;6;8;9;10;11} va B={5;6;7;8;10;11} to'plamlar berilgan. A∩B to'plam elementlari sonini toping.
A) 5 B) 8 C) 9 D) 4

23. Quyidagilardan qaysilari to'g'ri?
1)agar b>0 , a>c>0 bo'lsa, u holda $\frac{a}{b}>\frac{c}{b}$ bo'ladi
2)agar a>0, 0<b<c bo'lsa, u holda $\frac{a}{b}>\frac{a}{c}$ bo'ladi

3)agar c>0, a>b>0 bo'lsa, u holda $\frac{a}{b} < \frac{a+c}{b+c}$ bo'ladi.

A) 2; 3 B) 1; 2 C) 1; 2; 3 D) 1; 3

24. To'g'ri berilgan integrallash formulalarini tanlang:

1) $\int \sin\big(g(x)\big) \cdot g'(x)dx = -\cos\big(g(x)\big) + x + c$

2) $\int \cos(g(x)) \cdot g'(x)dx = \sin\big(g(x)\big) + c$

3) $\int \text{ctg}(g(x)) \cdot g'(x)dx = \ln|\sin\big(g(x)\big)| + c$

A) 1; 2 B) 2; 3 C) 1; 2; 3 D) 1; 3

25. Quyida keltirilgan tasdiqlardan qaysilari to'g'ri.

1)teng yonli trapetsiyaga har doim ichki aylana chizish mumkin.

2)ixtiyoriy nuqta orqali bir va undan ortiq to'gri chiziqlar o'tkazish mumkin.

3)agar burchak 45^0 teng bo'lsa, u holda unga vertikal burchak ham 45^0 ga tengdir.

4)ixtiyoriy trapetsiyaning yon tomonlari tengdir.

A) 2; 3 B) 1; 4 C) 2; 4 D) 1; 3

26. $y = x^2 - |2x - 4|$ funksiya grafigiga $x = 3$ va $x = -3$ nuqtalarda o'tkazilgan urinmalarning kesishish nuqtasi abssissasini toping.

A) 3 B) 1 C) -1 D) -1

27. Ketma-ket kelgan ikkita musbat juft sonlar kavdratlarining ayirmasi 124 ga teng. Ushbu sonlardan kichigini toping.

A) 32 B) 26 C) 28 D) 30

28. $y = x^4 - 4lnx$ funksiyani minimum nuqtasini toping.

A) x=2 B) x=1 C) mavjud emas D) x=0

29. Quyida berilgan ketma-ketliklardan qaysi biri arifmetik progressiya hisoblanadi?

A)3 sonining darajalaridan iborat natural sonlar ketma-ketligi.

B)natural sonlarning kublaridan iborat ketma-ketlik.

C)surati maxrajidan 1 ga kichik bo'lgan barcha to'g'ri kasrlar ketma-ketligi.

D)4 ga karrali bo'lgan natural sonlar ketma-ketligi.

30. A(0;1) va B(5;-3) nuqtalar berilgan. Agar B nuqta AC kesmani o'rtasi bo'lsa, C nuqta koordinatalari yig'indisini toping.

A)2 B)2,5 C)3 D)4

31. $(\sin161^0+\sin41^0)(\sin139^0+\sin19^0)+(\sin49^0-\sin109^0)(\sin131^0-\sin71^0)$ ni soddalashtiring.

A) 1 B) 0 C) $\cos22^0$ D) $\sin22^0$

32. Ifodani soddalashtiring.

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

A) $tg\frac{\alpha}{2}$ B) $ctg\frac{\alpha}{2}$ C)$-2ctg\frac{\alpha}{2}$ D)$-tg\frac{\alpha}{2}$

33. Ifodani soddalashtiring.

$\frac{1-log_a^3 b}{(\log_a b+\log_b a+1)\cdot\log_a\frac{a}{b}} \cdot \log_b a$

A) 0 B) 2 C) 1 D) 3

34. Agar a, b, c manfiy butun sonlar bo'lib $\frac{1}{a} > \frac{1}{b} > \frac{1}{c}$ tengsizliklar bajarilsa,

$|a+b| - |b-c| + |a-c|$ ifodani soddalashtiring.

A)$-2a$ B)$-2a-2c$ C) 0 D) $b-a$

35. Ifodaning qiymatini toping.

$7^{1-\log_7 8} - 4^{-\log_4 0{,}125}$

A) -7,875 B) 0 C) -3,875 D) -7,125

36. Kasrni qisqartiring. $\frac{x^4+a^2x^2+a^4}{x^3-a^3}$

A)$\frac{x^3+ax^2+a}{x^2+ax+a^2}$ B)$\frac{x^2-ax+a^2}{x^2+ax+a^2}$ C)$\frac{x^2+ax+a^2}{x-a}$ D)$\frac{x^2-ax+a^2}{x-a}$

37. $2x^2 - \big(2\sqrt{3} + 3\sqrt{2}\big)x + \sqrt{6} + 2 = 0$ tenglamaning kichik ildizini toping.

A)$-\frac{\sqrt{2}}{2}$ B) $\sqrt{3}+\sqrt{2}$ C) $\sqrt{3}-\sqrt{2}$ D) $\frac{\sqrt{2}}{2}$

38. a haqiqiy soni uchun $\sqrt{12-a} - \sqrt{5-a} = 2$ $\sqrt{12-a} + \sqrt{5-a}$ ifodaning qiymatini toping.

A) 2,5 B) 3 C) 3,5 D) 4

39. $f(x) = \begin{cases} 4x+1\ , x<0 \\ -x^3+5\ ,\ x \geq 0 \end{cases}$ funksiya berilgan. $f(f(2))$ ni toping.

A)-13 B)-7 C)-11 D)-1

40. $|x+2| + \frac{1}{2}|x-4| = 6$ tenglamaning barcha haqiqiy yechimlari yig'indisini toping.

A) 5 B) 0 C) -3 D) 1

41. a ning qanday eng kichik butun qiymatida $-x^2 - 10x + 5 < a$ tengsizlik x ning barcha qiymatlarida o'rinli bo'ladi?

A) 32 B) 29 C) 30 D) 31

42. $2^{\sqrt{x+1}} - 6 \leq 2^{4-\sqrt{x+1}}$ tengsizlikni qanoatlantiruvchi butun sonlar nechta?

A) 10 ta B) 7 ta C) 9 ta D) 8 ta

43. $y = \frac{|x-1|}{x-1} + 2$ funksiya grafigi qaysi choraklardan o'tadi.

A)I, III, IV B)I, II, III C)I, III D)I, II

44. Uchburchakning 10 ga teng balandligi uning asosini 10 va 4 ga teng kesmalarga ajratadi. Uchburchakning qolgan ikki tomonidan kichigiga o'tkazilgan mediana uzunligini toping.

A)11 B)14 C)13 D)12

45. Agar f(x)= $\frac{e^x}{lnx} - \sqrt{sin3}$ bo'lsa, f '(e) ni toping.

A) $\frac{e^{e-1}\cdot(e-1)}{e}$ B) $e^{e-1}\cdot(e-1)$ C) e D) e^e

46. $\int_1^3 2e^{2x}dx$ integralni hisoblang.

A) $e^2(e^3-1)$ B) $e^2(e^4-1)$ C) $e^4(e^2-1)$

D) $e^2(e^4+1)$

47. Teng yonli trapetsiyaning pastki asosi 50 sm ga ustki asosi esa 36 sm ga teng. Bu trapetsiyaning dioganallari o'zaro perpendikulyar. Uning yuzini toping.

A)1849 sm^2 B)2036 sm^2 C)1600 sm^2 D)1681 sm^2

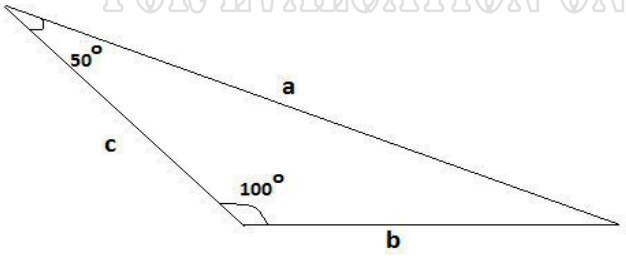
48. a, b, c musbat butun sonlar uchun $x = 3a + 2 = 5b + 4 = 7c + 6$ tengliklar bajarilsa, x uch xonali sonning eng katta qiymatini toping.

A)999 B)944 C)945 D)976

49. Tomoni 4 ga teng bo'lgan ABCDEF muntazam oltiburchakda L nuqta AB tomon o'rtasi. K nuqta ED tomondan olingan nuqta bo'lib DK=3 bo'lsa, KL ning uzunligini toping.

A) $4\sqrt{3}$ B) 7 C) $3\sqrt{7}$ D) 6

50. Quyidagi chizmada berilganga ko'ra ,



$\frac{|a-b|+|b-c|+|c-a|}{2}$ ni toping.

A) a-b B) b-c C) a-c D) b-a

51. x^2-4x-7=0 tenglamaning ildizlari a va b bo'lsa $\frac{20}{a^2-4a+3}+\frac{2b^2-8b+16}{5}$ ning qiymatini toping.

A) 6 B) 7 C) 8 D) 4

52. $y=1+2x^2-4x+m$ funksiyaning eng kichik qiymati -3 ga teng bo'lsa , m=?

A) -3 B) 0 C) -2 D) -1

53. Ikki xonali son o'zining raqamlari ko'paytmasidan 3 marta , yig'indisidan 4 marta katta? Shu sonning raqamlarining yig'indisini toping.

A) 12 B) 17 C) 8 D) 6

54. $64^{25}\cdot 25^{64}$ soni N sonining kvadrati bo'lsa, N sonining raqamlari yig'indisini toping.

A) 14 B) 28 C) 7 D) 21

55. y=|x| berilgan. y ' ni toping.

A) 1 B) -1 C) 0 D) $\frac{|x|}{x}$, $x\neq 0$

56. Qaysi nuqtada $y=x^3-2x^2+4$ va $y=x^3-\ln x$ funksiyalarning grafiklariga o'tkazilgan urunmalar o'zaro parallel bo'ladi?

A) $x=\frac{1}{2}$ B) $x=\pm\frac{1}{2}$ C) x=2 D) $x=-\frac{1}{2}$

57. Muntazam uchburchakka tomoni m ga teng bo'lgan kvadrat ichki chizilgan. Uchburchakning tomonini toping.

A) $\frac{m(2\sqrt{3}+6)}{3}$ B) $\frac{m(2\sqrt{3}+6)}{6}$ C) $\frac{m(\sqrt{3}+3)}{3}$ D) $\frac{m(2\sqrt{3}+3)}{3}$

58. Radiuslari 7 va 14 sm bo'lgan kesishuvchi ikkita aylananing kesishish nuqtalaridagi urunmalar o'zaro perpendikulyar . O_1ABO_2 shaklning yuzini toping., bunda AB – aylanalarga umumiy urunma, O_1 va O_2 esa ularning markazlari.

A) 110sm^2 B) 238sm^2 C) 109sm^2 D) 147sm^2

59. $ABCDA_1B_1C_1D_1$ kub berilgan bo'lib , K, L, M – nuqtalar mos ravishda BB_1 , A_1D_1 , va CD qirralarning o'rtalari. Kubning KLM tekislik bilan kesimi ….. bo'ladi.

A)oltiburchak B)beshburchak C)to'rtburchak D)uchburchak

60. Do'konda 5 xil konvert va 4 xil marka sotilmoqda. Konvert bilan markani necha usulda sotib olish mumkin?

A) 16 B) 20 C) 18 D) 15

61. Chiziqli tenglamalar sistemasi nechta ildizga ega bo'la oladi.

1) bitta ildizga; 2)cheksiz ko'p ildizga; 3)ildizi yo'q;

A)faqat 1 B)faqat 1;3 C)faqat 2;3 D)1; 2; 3

62. To'g'ri berilgan integrallash formulalarini tanlang.

1) $\int \frac{1}{g(x)}\cdot g'(x)dx=\ln|g(x)|+c$

2) $\int a^{g(x)}\cdot g'(x)dx=\frac{a^{g(x)}}{\ln|a|}+c$

3) $\int e^{g(x)}\cdot g'(x)dx=\mathrm{g(x)}\cdot e^{g(x)}+c$

A) 1; 2; 3 B) 1; 2 C) 2; 3 D) 1; 3

63. Agar a natural sonni 36 ga bo'lganda bo'linma $n, qoldiq\ n^2$ ga teng bo'lsa , a sonining eng kata qiymatini toping.

A)160 B)432 C)205 D)117

64. $agar\ 27{,}3\cdot 10^n=0{,}0000273$ bo'lsa , n ni toping.

A)-6 B)-7 C)-5 D)-4

65. Hisoblang: $arcsinsin3$.

A)$\frac{\pi}{2}-3$ B)$\pi-3$ C)3 D)$\emptyset$

66. Hisoblang:

$cos1^0+cos2^0+cos3^0+\cdots+cos179^0$.

A)1 B)-1 C)0 D)$cos89^0$

67. Quyida keltirilgan tasdiqlardan qaysilari noto'g'ri?

1)Agar ikkita aylana radiuslari 3 va 5, ularning markazlari orasidagi masofa 1 ga teng bo'lsa, u holda bu aylanalar kesishadi.

2)To'g'ri chiziqda yotmagan nuqta orqali o'tkazilgan to'g'ri chiziq , bu to'g'ri chiziqqa paralleldir.

3)Agar rombning burchaklaridan biri 90^0 ga teng bo'lsa, u holda bunday romb kvadratdir.

4)Agar ikkita aylanalar radiuslari 5 va 7, ularning markazlari orasidagi masofa 3 ga teng bo'lsa, u holda aylanalar umumiy nuqtaga ega emas.

A) 1; 3 B) 2; 4 C) 1; 4 D) 2; 3

68. 40-35-13-1 ifodaga qavslar qo'yilganda nechta turli xil natijalar olish mumkin?

A) 7 B) 4 C) 5 D) 8

69. Ifodaning qiymatini toping. $\sqrt[3]{\frac{400\sqrt{23^2-17^2}}{\sqrt{0{,}6}}}$

A) 18 B) 21 C) 19 D) 20

70. $\frac{8}{1+\frac{2}{x-1}}$ kasr ma'noga ega bo'lmaydigan barcha x lar yig'indisini toping?

A) -1 B) 1 C) 0 D) -2

71. $2<a<9$ va $2<b<10$ bo'lsa , a va b butun sonlar uchun $\frac{1+\frac{a}{b}}{1+\frac{b}{a}}$ kasrning eng katta qiymatini toping.

A) $\frac{8}{3}$ B) 15 C) $\frac{7}{3}$ D) 7

72. a va b sonlar o'zaro tub sonlardir. Bu sonlarning eng kichik umumiy karralisi 500 ga teng bo'lsa, a+b ni toping.

A) 129 B) 14 C) 100 D) 125

73. Birinchi quvurdan ikkinchi quvurga qaraganda ikki barobar ko'p suv oqadi. Ikkalasi birgalikda bo'sh hovuzni 12 soatda to'ldiradi. Birinchi quvur hovuzning uchdan bir qismini necha soatda to'ldiradi?

A) 4 B) 12 C) 9 D) 6

74. 1 dan boshlab ketma-ket natural sonlarning eng ko'pi bilan nechtasining yig'indisi 528 dan kichik bo'ladi?

A) 29 B) 32 C) 31 D) 30

75. Agar biror oyda 5 ta dushanba bo'lsa, shu oyda .... bo'la olmaydi.

A) 5 ta chorshanba B) 5 ta seshanba

C) 5 ta payshanba D) 5 ta shanba

76. Uch yashikda 85,6 kg meva bor. 2-yashikdagi meva 1-yashikdagi mevaning 0,8 qismini tashkil qiladi, 3-yashikda esa 2-yashikdagining 42,5% miqdoricha meva bor. Uchunchi yashikda qancha meva bor?

A) 13,6 kg B) 13 kg C) 12,5 kg D) 14 kg

77. Arifmetik progressiyada $a_7+a_{13}=34$ va $a_5+a_7=18$ bo'lsa, S_{24} ni toping?

A) 528 B) 488 C) 520 D) 498

78. Musbat hadli geometrik progressiyada $S_2=3$ $S_3=7$ bo'lsa S_8=ni toping?

A) 311 B) 288 C) 255 D) 256

79. Xitoy aholisining soni $1{,}2\cdot10^9$ kishini , Italiyaniki esa $5{,}8\cdot10^7$ kishini tashkil qiladi. Xitoy aholisining soni Italiya aholisining sonidan necha marta ko'p?

A) taxminan 23 marta B) taxminan 21 marta C) taxminan 22 marta D) taxminan 19 marta

80. 9*950 yozuvda yulduzchani shunday raqam bilan almashtiringki , hosil bo'lgan son 45 ga qoldiqsiz bo'linsin.

A) 2 B) 5 C) 6 D) 4

81. Imtihonda belgilangan har bir to'g'ri javobda 4 ball berilib , har bir noto'g'ri javob uchun 1 ball chegiriladi. Belgilanmagan javoblar uchun ball berilmaydi ham, chegirilmaydi ham. Agar 50 ta savolli testdan o'quvchi 153 ball to'plagan bo'lsa, u nechta savolga javob belgilamagan?

A) 5 ta yoki 8 ta B) 5 ta yoki 3 ta

C) 5 ta yoki 9 ta D) 3 ta yoki 8 ta

82. Arifmetik progressiya quyidagicha shart bo'yicha berilgan a_1=-3,1 ; $a_{n+1}=a_n+0{,}9$. Uning dastlabki 19 ta hadi yig'indisini toping.

A) 95 B) 99 C) 91 D) 92

83. Arifmetik progressiyada $a_{11}=5a_7$ bo'lsa , uning dastlabki o'n bitta hadi yig'indisini toping.

A) 11 B) 22 C) 4 D) 0

84. Arifmetik progressiyaning barcha musbat hadlari yig'indisini toping. 11,2 ; 10,8 ; 10,4 ; ...

A) 162,4 B) 162 C) 162,8 D) 163,2

85. Uchta sonning uchinchisi ikkinchisidan nechta ortiq bo'lsa, ikkinchisi birinchisidan shuncha ortiq. Bu sonlardan ikkita kichigining ko'paytmasi 165 , ikkita kattasining ko'paytmasi 285 ekanligi ma'lum. Shu uchta sondan uchinchisini toping.

A) 13 B) 19 C) 15 D) 17

86. Ayirmasi noldan farqli arifmetik progressiyada to'rtinchi hadidan o'n to'rtinchi hadigacha bo'lgan yig'indisi 55 ga teng. Arifmetik progressiyaning nechanchi hadi 5 ga teng bo'ladi?

A) 11 B) 9 C) 12 D) 10

87. Hovuzdagi suv bo'shatila boshlaganidan bir soat o'tgach, unda 400 m^3 suv qoldi va yana uch soat vaqt o'tgach esa 250 m^3 suv qoldi. Dastlab hovuzda qancha suv bo'lgan.

A) 450 B) 475 C) 600 D) 525

88. Hisoblang:

$\left(\frac{\sqrt{6}+\sqrt{5}}{\sqrt{2}+1}\cdot\frac{\sqrt{6}-\sqrt{5}}{\sqrt{2}-1}\right):\left(\frac{1}{\sqrt{3}}-\frac{\sqrt{3}}{9}+\frac{1}{\sqrt{27}}\right)$.

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

89. Ahmad bir kun, Arslon ikki kun ishlaganda bir ishning $\frac{3}{8}$ qismini bajarishadi.Agar Ahmad uch kun , Arslon ikki kun ishlasa, aynan o'sha ishning $\frac{5}{8}$ qismini bajarishadi. Ahmad bir o'zi ushbu ishni necha kunda tamomlaydi?

A) 4 B) 10 C) 8 D9

90. $\log_{x^2} 13 = \log_{4-3x} 13$ tenglamaning ildizi 5 dan qancha kam.

A) 5 B) 4 C) 7 D) 9

91. Tenglamani yeching;

$$4cos^2x - 2sin^2x - 5cosx - 4 = 0$$

A) $x = \pm\arccos\left(-\frac{2}{3}\right) + \pi n; n \in Z;$

B) $x = \pm\arccos\left(-\frac{2}{3}\right) + 2\pi n; n \in Z;$

C) $x = \arccos\left(-\frac{2}{3}\right) + \pi n; n \in Z;$

D) $x = \pm\arccos\frac{2}{3} + \pi n; n \in Z;$

92. $ax^2 - 3ax + a + 7 > 0$ tengsizlik x ning ixtiyoriy qiymatida o'rinli bo'ladigan barcha butun a larning o'rta arifmetigini toping.

A) 3 B) 1,5 C) 2 D) 2,5

93. Berilgan tengsizlikning butun ildizrini toping.

$\log_{\frac{1}{3}}\log_4(x^2-5) \geq 0 \;\; agar \;\; x \leq -3$

A) 2 B) 3 C) 4 D) 1

94. Diagonallari perpendikulyar bo'lgan to'g'riburchakli trapetsiyaning asoslari 2 va 8 ga teng. Trapetsiya yuzini toping.

A) 25 B) 16 C) 24 D) 20

95. Agar ABC uchburchakning AB va AC tomonlarida M va N nuqtalar olinib, ular tomonlarni mos ravishda AM:BM=2:5 va AN:CN=4:5 kabi nisbatda bo'lsa, CM to'g'ri chiziq BN kesmani qanday nisbatda bo'ladi?

A) 9:5 B) 12:7 C) 6:5 D) 9:2

96. Balandligi $\frac{\sqrt{5}}{3}$ bo'lgan 120^0 yoyli segmentga ABCD to'g'ri to'rtburchak shunday ichki chizilganki, bunda AB:BC=1:4 va BC tomon segment vatarida yotadi. To'g'ri to'rtburchak yuzini toping.

A) 1,2 B) 0,8 C) 1 D) 0,6

97. A(-1;1) va B(5:-3) nuqtalar berilgan. Agar B nuqta AC kesmaning o'rtasi bo'lsa, C nuqta koordinatalari ayirmasining modulini toping.

A) 4 B) 16 C) 18 D) 25

98. Qutida "INFORMATIKA" so'zini hosil qiladigan harflar bor. Tavakkal tanlanganda "A" harfining chiqish ehtimolligini toping.

A) $\frac{1}{11}$ B) $\frac{2}{11}$ C) 11 D) $\frac{1}{22}$

99. Quyida keltirilgan tasdiqlardan qaysilari noto'g'ri?

1)Agar tekislikda ikkita to'g'ri chiziq uchinchi to'g'ri chiziq bilan kesishganda , mos burchaklari teng bo'lsa, u holda bu ikkita to'g'ri chiziq paralleldir.

2)Teng yonli uchburchakning ixtiyoriy balandligi uning bissektrisasi ham bo'ladi.

3)Agar rombning burchaklaridan biri 90^0 ga teng bo'lsa, u holda bunday romb – kvadratdir.

4)Agar to'rtburchakning ikki qarama qarshi tomonlari teng bo'lsa, u holda bunday to'rtburchak – parallelogrammdir.

A) 2 ; 3 B) 2 ; 4 C) 1 ; 3 D) 1 ; 4

100. Agar $\sqrt{\frac{2}{\sqrt{7}+\sqrt{5}}-\frac{3}{\sqrt{7}-2}+a-1}$ ifodani qiymati 0 ga teng bo'lsa , a ni toping.

A) $\sqrt{5}-3$ B) $3+\sqrt{5}$ C) $3-\sqrt{5}$ D) $\sqrt{3+\sqrt{5}}$

101. Hisoblang. $(\log_2 7+\log_7 16+4)(\log_2 7-$ $-2\log_{28} 7)\cdot\log_7 2-\log_2 7$

A) 4 B) 3 C) 2 D) 1

102. Tenglama nechta butun ildizlarga ega.

$|x^2-2x-15|=2x-x^2+15$

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

103. $log_{\frac{1}{7}}^2(7-x^2)-8\log_{\frac{1}{7}}(7-x^2)-9=0$ tenglama nechta ildizga ega?

A) 1 B) 2 C) 3 D) 4

104. $\begin{cases}2x+y=7\\|x-y|=2\end{cases}$ tenglamalar sistemasining yechimlari sonini toping.

A) ∅ B) 4 C) 2 D) 1

105. $x^7\cdot|x^2+9x+8|<0$ tengsizlik [-8;1] kesmada nechta butun yechimga ega?

A) 5 B) 8 C) 6 D) 7

106. $|x^2+2x|+|x^2-4|>2|x^2+x-2|$ tengsizlikning barcha butun yechimlari yig'indisini toping.

A) -1 B) 2 C) 1 D) -3

107. $f(\varphi(x))=\frac{x+2}{x-3}$, $\varphi(x)=2x-1$ $bo'lsa, f(x)=?$

A) $f(x)=\frac{x+5}{2x-5}$ B) $f(x)=\frac{x-5}{x+5}$ C) $f(x)=\frac{x+5}{x-5}$

D) $f(x)=\frac{2x+5}{x-5}$

108. $\int(x+2)f^{-1}(x+1)dx=x^2+2x+C,\ C\in R$ tenglikni qanoatlantiruvchi f(x) funksiya quyidagilardan qaysi biri bo'la oladi? Bu yerda $f^{-1}(x)$ funksiya f(x) ga teskari funksiya.

A) $\frac{x}{2-x}$ B)$-\frac{x}{2+x}$ C) $\frac{x-2}{x+2}$ D)$-\frac{x}{2}+x$

109. ABCD trapetsiyaning AB yon tomoni 6 ga teng. Trapetsiyaning D va C uchlaridan bu tomon yotgan to'g'ri chiziqgacha masofalar 3 va 7 teng bo'lsa, trapetsiya yuzasini toping.

A) 25 B) 24 C) 30 D) 36

110. Agar to'g'ri to'rtburchakning perimetri 22 ga teng bo'lsa uning yuzasini eng katta qiymatini toping.

A) 30,25 B) 30 C) 32 D) 32,25

111. ABC uchburchakka tashqi chizilgan aylananing A nuqtani o'z ichiga olmagan BC yoyi o'rtasi M nuqta bo'lsin. AM kesma BC tomonini N nuqtada kesadi. Agar AB=13 , BC=10 va CA=12 bo'lsa,

BN – NC ni hisoblang.

A) 0,6 B) 0,2 C) 0,4 D) 0,4

112. Radiusi $4\sqrt{2}$ ga teng bo'lgan sharga konus ichki chizilgan. Konusning yasovchisi asos tekisligi bilan 60^0 li burchak tashkil etadi. Konusning yon sirtini toping.

A) 24π B) 48π C) 54π D) 32π

113. Birhad va ko'phadlar uchun quyidagi tsdiqlarning qaysi biri noto'g'ri?

A)ko'phadning darajasi deb , shu ko'phad tarkibidagi birhadlarning eng katta darajasiga aytiladi.

B)ko'phadning darajasi deb , shu ko'phad tarkibidagi birhadlarning darajalari yig'indisiga aytiladi.

C)agar ko'phad tarkibida faqat 2 ta harf ishtirok etsa , ikki noma'lumli ko'phad deyiladi.

D)birhadning darajasi deb , uning tarkibidagi barcha harflar darajalarining yig'indisiga aytiladi.

114. a+b-c=8 va ab-ac-bc=5 bo'lsa $a^2+b^2+c^2$ ning son qiymatini toping.

A) 62 B) 55 C) 44 D) 54

115. Tenglamani yeching.

$73\cdot10^{x+1}+0{,}07=2^{x+5}\cdot5^{x+2}$

A) 4 B) -1 C) -3 D) 3

116. a ning qanday eng katta butun qiymatida $3x^2$-18x-3>a tengsizlik x ning barcha qiymatlarida o'rinli bo'ladi.

A) -31 B) -30 C) -29 D) -32

117. $\log_{x+8}(64-x^2)-\frac{1}{16}log_{x+8}^2(x-8)^2\geq2$ tengsizlik nechta haqiqiy yechimga ega?

A) ∅ B) 1 C) 2 D) cheksiz ko'p

118. Quyidagi chiziqlar bilan chagaralangan shaklning yuzini toping. $y=x^2$, $y=0$, $x=3$

A) 3 B) 9 C) 8 D) 6

119. Rombning tomoni diagonallari bilan 4:5 kabi nisbatda burchak tashkil qilsa, uning burchaklarini toping.

A) 84^0 va 105^0 B) 80^0 va 100^0 C) 88^0 va 92^0

D) 108^0 va 72^0

120. Teng yonli uchburchakning asosi 8 sm ga , ton tomoni esa 5 sm ga teng. Bu uchburchakka tashqi chizilgan aylananing radiusini (sm) toping.

A) $\frac{25}{6}$ B) $\frac{25}{4}$ C) $\frac{25}{3}$ D) $\frac{25}{8}$

121. Aylana to'g'ri burchakli uchburchakning katta katetiga urinib , shu katet qarshisidagi burchak uchidan o'tadi, markazi esa gipotenuzada yotadi. Agar katetlarining uzunliklari 5 va 12 bo'lsa, aylananing radiusini toping.

A) $\frac{65}{18}$ B) $\frac{55}{18}$ C) $\frac{65}{36}$ D) $\frac{65}{9}$

122. Tennis turnirida 9 ta sportchi ishtirok etmoqda. Tennischilar necha xil usul bilan oltin, kumush va bronza medallarini yutish mumkin?

A) 504 B) 990 C) 720 D) 360

123. Koordinata to'g'ri chizig'ida a nuqta belgilangan. Quyidagi tasdiqlardan qaysi biri bu son uchun to'g'ri hisoblanadi?

A) 3-a<0 B) a+4>0 C) a+5<0 D) 2-a>0

124. 6 ga karrali bo'lmagan a va b juft sonlarini 6 ga bo'lganda har xil qoldiq qoladi. a+b sonini 6 ga bo'lganda qoldiq nechaga teng bo'ladi?

A) 0 B) 4 C) 3 D) 2

125. Agar $x = \frac{4}{3}$ bo'lsa,

$(x-2)^3 + 3\cdot(x-2)^2 + 3\cdot(x-2) + 1$ ifodaning qiymatini toping.

A) $-\frac{4}{27}$ B) $\frac{1}{27}$ C) $-\frac{1}{27}$ D) $\frac{8}{27}$

126. Tenglamani yeching. $3^{\log_2 50}\cdot x^{\log_2 9} = 3$

A) 3 B) 0,3 C) 1 D) 0,2

127. $\sqrt{25-x^2} \le \frac{12}{x}$ tengsizlikni yeching.

A) (0;5] B) [0;3]∪[4;5] C)(0;3]∪[4;5] D) ∅

127. Ushbu $(x^2-x)(x^2-x-2) \le 120$ tengsizlikni qanoatlantiruvchi eng katta va eng kichik butun sonlar ayirmasini toping.

A) 6 B) 7 C) 5 D) 8

128. $y = \sqrt{\log_{\frac{1}{3}}(x^2-2x)+1}$ funksiyaning aniqlanish sohasini toping.

A) [-1;3] B) [-1;0)∪(2;3] C) (-∞;0)∪(2;∞)
D) (-∞;-1]∪[3;∞)

129. Boshlang'ich funksiyaning umumiy ko'rinishini toping. $f(x) = \frac{1}{2x+1}$

A) 2ln|2x+1|+C B) ln|2x+1|+C C) $\frac{1}{2}$ln|2x+1|+C D) $-\frac{1}{2}$ln|2x+1|+C

130. Agar qo'shni burchaklardan biri ikkinchisidan 40^0 ga katta bo'lsa, shu burchaklarni toping.

A) 135^0 ; 75^0 B) 110^0 ; 70^0
C) 135^0 ; 45^0 D) 90^0 va 60^0

131. To'g'ri burchakli uchburchakning yuzi 9 ga va o'tkir burchagi 15^0 ga teng. Uchburchakning medianalar kesishish nuqtasidan gipotenuzagacha bo'lgan masofani toping.

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

132. Asosi 18 m va yon tomoni 15 m bo'lgan teng yonli uchburchak berilgan. Ichki chizilgan doiraning markazidan uchburchak tekisligiga uzunligi 6 m bo'lgan perpendikulyar chiqarilgan. Bu perpendikulyarning oxiridan uchburchakning tomonlarigacha bo'lgan masofani toping.

A) 5,5 m B) 8 m C) 7,5 m D) 6 m

133. $\int \frac{2dx}{x\cdot ln2x}$ ni hisoblang.

A) $4lnln2x + C$ B) $2ln2x + C$
C) $1{,}5lnln2x + C$ D) $2lnln2x + C$

134. ABC to'g'ri burchakli uchburchakda E nuqta BC tomonni BE:EC=3:1 kabi nisbatda bo'ladi, D nuqta esa AB gipotenuzada yotadi. Agar BD=8, AC=12 va burchak BAC=60^0 bo'lsa, BDE uchburchak yuzini toping.

A) 36 B) 48 C)$18\sqrt{3}$ D) $24\sqrt{3}$

135. ABCD to'rtburchak aylanaga ichki chizilgan. Agar burchak ABC=105^0 , burchak CAD=35^0 bo'lsa , burchak ABD ni toping. A)75^0 B)60^0 C)70^0 D)80^0

136. Ifodani soddalashtiring.

$\sqrt[5]{b^5} - 2\sqrt[4]{b^4} + \sqrt[6]{b^6} - \sqrt[7]{b^7}$, bu yerda b ≥ 0

A) -2b B) 0 C) –b D) b

137. Tenglamani yeching: -3sinx=0

A) 2πm , m∈Z B) $\frac{\pi m}{-3}$, $m \in Z$ C) πm , m∈Z
D)$\frac{2\pi m}{-3}$, $m \in Z$

138. Ushbu sin2x+2sinx=cosx+1 tenglamaning [-π;π] oraliqqa tegishli ildizlari soni nechta?

A) 2 B) 4 C) 3 D) 1

139. $\sqrt{7-\sqrt{7+x}} = x$ tenglamaning natural yechimlari nechta?

A) 2 B) 0 C) 3 D) 1

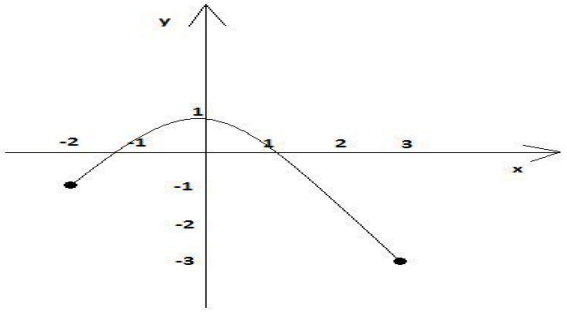
140. $log^2_{0,2}(x-1) > 4$ tengsizlikni yeching.

A) (26;∞) B) (1;26) C) (0;1,04)∪(5;∞)
D) (1;1,04)∪(26;∞)

141. $f(x) = 19 - 7\cdot\sqrt[3]{x^2}$ funksiyaning ekstremumini toping.

A) 14 B) 19 C) -19 D) 26

142. y=f(x) funksiya qiymatlar to'plamini toping?



A) [-2;4] B) [-3;1] C) [-2;1] D) [-1;2]

toping. f(x)=sin²x

A) $\frac{x-sin2x}{2}+c$ B) $\frac{2x-sin2x}{2}+c$ C) $\frac{2x+sin2x}{4}+c$

D) $\frac{2x-sin2x}{4}+c$

144. ABC teng yonli uchburchakka tashqi chizilgan aylananing AD vatari uning BC asosini E nuqtada kesib o'tadi. Agar $=2\sqrt{3}$, $DE=\sqrt{3}$ bo'lsa, AB ni toping.

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

145. Agar $|a|\neq|b|\neq|c|$ va $\frac{a}{b+c}+\frac{b}{c+a}+\frac{c}{a+b}=1$ $\left(\frac{a^2}{b+c}+\frac{b^2}{c+a}+\frac{c^2}{a+b}\right):(a+b+c)$ning qiymatini toping

A) 0 B) 0,5 C) 1 D) 2

146. $4x^2-20x=0$ tenglama ildizlarini toping.

A) 0 ; 4 B) -4 ; 0 C) 0 ; 5 D) -5 ; 0

147. Ushbu $2x^3+3x^2-1=0$ tenglama katta ildizining kichik ildizga nisbatini toping.

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

148. $\sqrt{7-\sqrt{7+x}}=x$ tenglamaning haqiqiy yechimlari ko'paytmasini toping.

A) 0 B) 2 C) 1 D) 4

149. $\frac{(x-1)(4-x)}{\sqrt{3+5x-2x^2}}>0$ tengsizlikning yechimlari to'plamini toping.

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

150. Ushbu $(x^2+3x+1)(x^2+3x+3)>35$ tengsizlikni qanoatlantirmaydigan butun sonlar nechta.

A) 4 ta B) 7 ta C) 6 ta D) 5 ta

151. y=3x-3 va y=-0,5x-a funksiyalarning grafiklari a ning qanday qiymatlarida koordinatalar tekisligining I choragida kesishadi.

A) $(-\frac{1}{2};\infty)$ B)$(-\infty;-\frac{1}{2})$ C) hech qanday qiymatida kesishmaydi. D) $(-\infty;\frac{1}{2})$

152. $f(x)=x+e^{-3x}$ funksiya grafigiga o'tkazilgan urinma y(x)=1−2x to'g'ri chiziqqa parallel. Urinish nuqta absissasini toping.

A) -1 B) 1 C) 2 D) 0

153. ABC , PQR va XYZ uchburchaklar teng. Agar AB=5 sm , QR=6 sm va ZX=7 sm ekanliklari ma'lum bo'lsa, uchburchaklarning qolgan tomonlarini toping.

A)BC= 6 sm, CA=7 sm, PQ=5 sm, RP=7 sm, XY=5 sm, YZ=6 sm

B) BC= 7 sm, CA=6 sm, PQ=5 sm, RP=7 sm, XY=6 sm, YZ=5 sm

C) BC= 6 sm, CA=7 sm, PQ=7 sm, RP=6 sm, XY=6 sm, YZ=5 sm

D) BC= 7 sm, CA=6 sm, PQ=7 sm, RP=5 sm, XY=5 sm, YZ=6 sm

154. Teng yonli uchburchakning asosi 8 sm ga , yon tomonining medianasi esa 10 sm teng. Yon tomonini (sm) toping.

A) $4\sqrt{17}$ B) $2\sqrt{17}$ C) $4\sqrt{7}$ D) $6\sqrt{17}$

155. Parallelogrammning diagonallaridan biri uning yon tomoniga perpendikulyar va unga teng. Parallelogrammning katta diagonali P tekislik bilan α burchak tashkil etadi. Agar $cos\alpha=\sqrt{0{,}936}$ bo'lsa, parallelogramm tekisligi va P tekislik orasidagi ikki yoqli burchakning kosinusini toping.

A) 0,6 B) 0,8 C) 0,2 D) 0,5

156. Agar $\vec{a}\cdot\vec{b}=42$ $bo'lsa, \vec{b}(2;3;-1)$ vektorga kollinear $\vec{a}(x;y;z)$ vektorning koordinatalari yig'indisini toping.

A) 9 B) 10 C) 14 D) 12

157. Tenglamaning ildizlari yig'indisini toping.

$$cos2x\cdot cos3x=-1\ ,x\in(0^0;720^0)$$

A) 540^0 B) 360^0 C) 720^0 D) 180^0

158. Tenglama haqiqiy ildizlarining yig'indisini toping.

$144x^4=(x^3+35x)^2$

A) 2 B) 0 C) -2 D) 4

159. Tenglmalar sistemasini yeching. $\begin{cases}2^x+2^y=12\\ x+y=5\end{cases}$

A) (2;3); (3;2) B) (2;3); (-3;-2)

C) (2;3); (2;2) D) (2;3)

160. $2x^3+mx^2-13x+n=0$ tenglamaning ildizlari $x_1=2$ va $x_2=3$ bo'lsa, uning uchinchi ildizini toping.

A) 2,5 B) -1,5 C) 1,5 D) -2,5

161. ln(x+1)≥2 tengsizlikning eng kichik butun qiymatini toping.

A) 7 B) 8 C) 4 D) 3

162. $f(x)=2x^6-7x^3+9$ funksiyaning eng kichik qiymatini toping.

A) $3\frac{1}{4}$ B) $4\frac{1}{2}$ C) $-3\frac{1}{4}$ D) $2\frac{7}{8}$

163. $f(x)=6x+\frac{6}{x}$ funksiyaning (0;∞) oraliqdagi eng kichik qiymatini toping.

A) 13 B) 14 C) 11 D) 12

164. $\int_{-5}^{3}|x-1|dx$ aniq integralni qiymatini toping.

A) -4,5 B) 20 C) 18 D) 16

165. Agar to'g'ri burchakli uchburchak katetlarining gipotenuzaga tushirilgan proyeksiyalari 9 va 16 ga teng bo'lsa, unga ichki chizilgan doira yuzini toping.

A) 75π sm² B) 25π sm² C) $12{,}5\pi$ sm² D) 50π sm²

166. Ikkita bir xil r radiusli aylanalar tashqi ravishda urinadi. Radiusi 8 ga teng bo'lgan uchunchi aylana bu aylanalarga tashqi ravishda A va B nuqtalarda urinadi. Agar AB=9 bo'lsa, r ni toping.

A) $\frac{72}{7}$ B) $\frac{48}{7}$ C) $\frac{72}{25}$ D) $\frac{36}{5}$

167. Oltiburchakli muntazam piramidaning apofemasi 2 ga teng. Asosidagi ikki yoqli burchak 60^0 ga teng. Piramidaning to'la sirtini toping.

A) $3\sqrt{3}$ B) $4\sqrt{3}$ C) $\frac{3\sqrt{3}}{2}$ D) $6\sqrt{3}$

168. $ABCDA_1B_1C_1D_1$ to'g'ri burchakli parallelepipedda $\overrightarrow{AD}=\vec{a}$, $\overrightarrow{AB}=\vec{b}$, $\overrightarrow{AA_1}=\vec{c}$ bo'lsa, $\overrightarrow{B_1D}$ vektorni $\vec{a}$, $\vec{b}$ va $\vec{c}$ vektorlar orqali ifodalang.

A) $\vec{a}-\vec{b}+\vec{c}$ B) $\vec{a}+\vec{b}+\vec{c}$ C) $\vec{a}-\vec{b}-\vec{c}$ D) $\vec{a}+\vec{b}-\vec{c}$

169. Quyidagi javoblardan qaysi biri bosh to'plam?

A) $A=\{x: x^2\le 0, x\in R\}$

B) $A=\{x: 3x+5, x\in R\}$

C) $A=\{x: x^2\le x, x\in R\}$

D) $A=\{x: |2x-3|=-4, x\in R\}$.

170. Hisoblang: $(2^2+6^2+10^2+14^2+18^2)-(1+5^2+9^2+13^2+17^2)$.

A)144 B)95 C)104 D)128

171. Quyida keltirilgan tasdiqlardan qaysilari noto'g'ri?

1) Ixtiyoriy ikkita nuqta orqali to'g'ri chiziq o'tkazish mumkin. 2) Rombning barcha burchaklari tengdir. 3) Agar aylananing yoyi 80^0 ni tashkil etsa , u holda shu yoyga tiralgan ichki chizilgan burchak 40^0 ga teng. 4) Agar uchburchakning tomonlari 4 va 5 , ular orasidagi burchak 30^0 bo'lsa, u holda bu uchburchakning yuzi 5 ga teng.

A) 1 ; 4 B) 1 ; 3 C) 2 ; 4 D) 2 ; 3

172. Hisoblang:

$1\cdot 4+2\cdot 7+3\cdot 10+\cdots+8\cdot 25$.

A) 720 B) 640 C) 648 D) 900

173. Agar $x^2-5x+2=0$ bo'lsa , $x^2+\frac{4}{x^2}$ ning son qiymatini toping.

A) 15 B) 23 C) 21 D) 18

174. $a=7\frac{2}{17}$; $b=6\frac{15}{17}$ bo'lsa , $\frac{a^2-b^2}{ab}:\left(\frac{1}{b}-\frac{1}{a}\right)$ ifodaning qiymatini toping.

A) 14 B) 10 C) 12 D) 16

175. Juft sonning o'zidan keyin keluvchi juft sonning uchlangani bilan yig'indisi 70 dan kichik . Ushbu shartni qanoatlantiruvchi juft sonlardan eng kattasini toping.

A) 12 B) 16 C) 14 D) 8

176. Agar $2^x=91$ bo'lsa |x-8|+|x-6| ifodani soddalashtiring.

A) -2 B) 2 C) 2x-14 D) 14-2x

177. Tenglamani yeching.

$\sqrt{2x^2-21x+4}=2-11x$

A) -2 B) -3 C) 1 D) 0

178. $\frac{3x^2-16x+21}{\log_{0,3}(x^2+6)}<0$ tengsizlikni yeching.

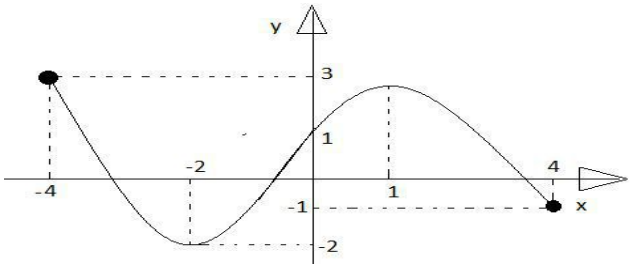
A) $\left(\frac{7}{3};3\right)$ B) $\left(-\infty;\frac{5}{3}\right)\cup(3;\infty)$ C) (3;∞) D) $\left(-\infty;\frac{7}{3}\right)\cup(3;\infty)$

179. $x^2-6ax-(2-3a)(2+3a)<0$ tengsizlikni yeching.

A) (3a-2;3a+2) B) (-∞;3a-2)∪(3a+2;∞)

C) (-∞;2-3a)∪(2+3a;∞) D) (2-3a;2+3a)

180. Grafik ko'rinishda berilgan funksiya qiymatlar to'plamini toping.



A) [-2;2] B) [-2;3] C) (-2;3) D) (-4;4]

181. $\int_{-1}^{0}(bx+a)dx=10$ tenglik o'rinli bo'lsa, b−2a ni qiymatini toping.

A) -30 B) -20 C) -40 D) -10

182. Teng yonli ABC uchburchakda AC=2; BA=BC=4 ; AN va CM bissektrisalar. MN kesma uzunligi toping.

A) $\frac{5}{3}$ B) $\frac{5}{4}$ C) $\frac{4}{3}$ D) $\frac{3}{2}$

183. Muntazam uchburchakka tomoni 4 ga teng bo'lgan kvadrat ichki chizilgan. Uchburchakning yuzini toping.

A) $\frac{2(7\sqrt{3}+12)}{3}$ B) $\frac{8(7\sqrt{3}+12)}{3}$ C) $\frac{4(7\sqrt{3}+12)}{3}$ D) $\frac{(7\sqrt{3}+12)}{6}$

184. O'lchamlari 80x20x5 sm bo'lgan to'g'ri burchakli parallelepiped shaklidagi mis g'o'lasidan qalinligi 1 mm bo'lgan tunuka taxtasi tayyorlandi. Bu tunuka taxtaning yuzini toping.

A) 0,8 m^2 B) 80 m^2 C) 8 m^2 D) 80 sm^2

185. Do'konda 7 xil pidjak , 5 xil shim va 4 xil galstuk sotilmoqda. Pidjak , shim va galstukdan iborat komplektni nechta usul bilan sotib olsa bo'ladi.

A) 155 B) 148 C) 146 D) 140

186. $Agar$ $x\sqrt{x}-9\sqrt{x}=8$ bo'lsa , $x-\sqrt{x}$ ning qiymatini toping.

A) 3 B) 7 C) 6 D) 8

187. Agar $x=\sqrt{42-\sqrt{42-\sqrt{42-\cdots}}}$,

$y=\sqrt{x+\sqrt{x+\sqrt{x+\cdots}}}$

$z=\sqrt{y\sqrt{y\sqrt{y\ldots}}}$ bo'lsa , $x+y+z$ ning qiymatini toping.

A) 11 B) 14 C) 10 D) 12

188. $a\cdot b\cdot c=4$ bo'lsa,

$\left(\frac{1}{a}-b\cdot c\right)\cdot\left(\frac{2}{b}-a\cdot c\right)\cdot\left(\frac{3}{c}-a\cdot b\right)$. Ko'paytmaning qiymatini .

A) $\frac{2}{3}$ B) $-\frac{3}{2}$ C) 1 D) $-\frac{5}{3}$

189. Nuqtalar o'rniga to'g'ri javobni tanlang.

To'g'ri burchakli uchburchak α o'tkir burchagi... deb shu burchakka yopishgan katetning gipotenuzaga nisbatiga aytiladi.

A) sinusi B) tangensi C) kosinusi D) kotangensi

190. Agar a<0 , b<0, c>0 bo'lsa, $\sqrt{b^2}+|b-c|-|c-a|+b$ ifodani soddalashtiring.

A)a-2b B)a-2b+c C)-a D)a-b

191. a manfiy bo'lsa , ifodani soddalashtiring.

$\sqrt[3]{54a^{2\frac{1}{3}}}\cdot\sqrt[3]{24a^{\frac{2}{3}}}$

A) $6a\sqrt[3]{6}$ B) $6a^{\frac{2}{3}}$ C) 12a D)$12a^{\frac{2}{3}}$

192. Tenglama ildizlarining to'rtinchi darajali yig'indisini toping. $x^2-2x-2=0$

A) 56 B) 48 C) 64 D) 54

193. Ildizlari $\frac{1}{10-\sqrt{72}}$ va $\frac{1}{10+6\sqrt{2}}$ ga teng bo'lgan ratsional koeffitsentli kvadrat tenglama tuzing.

A) $28x^2-20x+1=0$ B) $7x^2-20x+1=0$

C) $28x^2-20x+\frac{1}{4}=0$ D) $7x^2-5x+1=0$

194. $(x^2-6x)^2-5(x-3)^2-59=0$ tenglamaning butun sonlardan iborat yechimlari nechta.

A) ∅ B) 2 ta C) 4 ta D) 1 ta

195. Tengsizlikni yeching. ||x|-2|≤1

A) [1;3] B) [3;∞) C) [-3;-1]∪[1;3]

D) (-∞;3]∪[-1;1]

196. Qaysi son $y=3^{x-1}+5$ funksiya qiymati bo'la oladi.

A) 2 B) 9 C) 3 D) 5

197. Aniq integralni qiymatini toping.

$\int_{-2}^{1}|x^2-x|dx$

A) $5\frac{1}{6}$ B) $4\frac{1}{6}$ C) $4\frac{5}{6}$ D) $5\frac{2}{3}$

198. Teng yonli uchburchakning asosiga tushirilgan balandligi 3 ga, yon tomoniga tushirilgan balandligi 4 ga teng. Uchburchak yuzini toping.

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

199. Bir nuqtadan aylanaga ikkita urinma o'tkazilgan. Har bir urinmaning uzunligi 12 sm, urinish nuqtalari orasidagi masofa 14,4 sm. Aylana uzunligini toping.

A) 16π sm B) 24π sm C) 18π sm D) 20π sm

200. Piramida asosi tomonlari 12 , 20 va 16 ga teng bo'lgan uchburchakdan iborat. Piramidaning barcha ikkiyoqli burchaklari 30^0 ga teng bo'lsa. Uning hajmini (sm^3) toping.

A) $\frac{128\sqrt{3}}{3}$ B) $\frac{256\sqrt{3}}{3}$ C) 320 D) 960

201. 1 , 2 , 3 , 4 , 5 , 6 , 7 raqamlardan foydalangan holda , nechta turli ikki xonali har xil raqamlardan iborat sonlar hosil qilish mumkin?

A) 24 B) 84 C) 210 D) 42

202. To'g'ri berilgan integrallash formulalarni tanlang.

1) $\int \sin(b-kx)\,dx=-\frac{1}{k}\cdot\cos(b-kx)+c$

2) $\int \cos(b-kx)\,dx=-\frac{1}{k}\cdot\sin(b-kx)+c$

3) $\int tg^2x dx=tgx-x+c$

A) 1 ; 3 B) 2 ; 3 C) 1 ; 2 ; 3 D) 1 ; 2

203. $\sqrt{3x+2y-13}+\sqrt{4x-y-10}=0$ bo'lsa , x va y sonlarining ko'paytmasini toping.

A) 8 B) -2 C) -4 D) 6

204. $y=x^2$ parabola grafigini o'ngga ikki birlik, yuqoriga uch birlik siljitish(parallel ko'chirish) natijada hosil bo'lgan parabola tenglamasini yozing.

A) $y=x^2-4x+7$ B) $y=x^2-4x+3$

C) $y=x^2+4x+7$ D) $y=2x^2+3$

205. Agar $0<\alpha,\beta<\frac{\pi}{2}$, $tg\alpha=\frac{\sqrt{3-\sqrt{3}}\cdot\sqrt{3}}{4-\sqrt{3-\sqrt{3}}}$ va

$tg\beta=\frac{\sqrt{3-\sqrt{3}}-1}{\sqrt{3}}$ bo'lsa , $\alpha-\beta$ ni toping.

A) $\frac{\pi}{4}$ B) $\frac{\pi}{6}$ C) $\frac{\pi}{3}$ D) $\frac{\pi}{12}$

206. Ifodani qiymatini $a=18\sqrt{2}$ bo'lganda hisobla.

$$\left(\left(\sqrt{a^3a^{-3}}-\sqrt{27a^{-3}}\right):\left(\frac{a^2+9}{3a}+1\right)\right)\frac{(a-3)^{-1}}{(6a^3)^{-\frac{1}{2}}}-6$$

A) 30 B) -42 C) 42 D) 36

207. Hisoblang.

$$2^{\frac{1}{2\log_5 2}}\cdot 5^{log_5^2 2}-\sqrt{5}\cdot 2^{\log_5 2}-\left(\frac{1}{3}\right)^{\log_3 25}$$

A) 0,04 B) -0,4 C) 0,4 D) -0,04

208. Tenglamani yeching. $2sin5x-\sqrt{2}=0$

A) $(-1)^n\frac{\pi}{20}+\pi n, n\in Z$ B) $\pm\frac{\pi}{20}+2\pi n, n\in Z$

C) $(-1)^n\frac{\pi}{20}+\frac{\pi n}{5}, n\in Z$ D) $\pm\frac{\pi}{20}+\frac{2\pi n}{5}, n\in Z$

209. $(x^2-5x+4)\cdot\ln(5-x^2)=0$ tenglamaning ildizlari ko'paytmasini toping.

A) -2 B) 4 C) -4 D) 10

210. $\frac{7x+1}{x^2+4x+3}>1$ tengsizlikni qanoatlantiruvchi butun sonlar soni x_o bo'lsa , x_o+2 ni toping.

A) 2 B) 3 C) 5 D) 4

211. $y=x^2-|2x-4|$ funksiya grafigiga x=3 va x=-3 nuqtalarda o'tkazilgan urunmalarning kesishish nuqtasi ordinatasini toping.

A) -6 B) -5 C) -12 D) -9

212. $\int\frac{dx}{x\cdot ln2x}$ ni hisoblang.

A) 2lnln2x+c B) lnln2x+c

C) $\frac{1}{2}$lnln2x+c D) ln2x+c

213. $|x^2+2x|+|x^2-4|>2|x^2+x-2|$ tengsizlikning barcha butun yechimlari yig'indisini toping.

A) 2 B) -3 C) -1 D) 1

214. y=50x+79 to'g'ri chiziqqa parallel bo'lgan , y=kx-4,7 to'g'ri chiziqqa tegishli nuqtani toping.

A) (1;3) B) (0,1;0,3) C) (0,3;0,1) D) (0,125;2,2)

215. Perimetri 12 sm ga teng bo'lgan uchburchak o'rtalari kesmalar orqali tutashtirildi. Hosil bo'lgan uchburchak perimetrini toping.

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

216. Birinchi quvurdan ikkinchi quvurga qaraganda ikki barobar ko'p suv oqadi. Ikkalasi birgalikda bo'sh hovuzni 12 soatda to'ldiradi. Birinchi quvur hovuzning uchdan bir qismini necha soatda to'ldiradi.

A) 12 B) 4 C) 6 D) 9

217. 1, 8, 27, 64, 125, … ketma ketlikning 10- hadini toping.

A) 1331 B) 512 C) 729 D) 1000

218. Hisoblang. 1·4+2·7+3·10+…+10·31

A) 1210 B) 1200 C) 1440 D) 900

219. Hisoblang $tg20^0+4\sin20^0$

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

220. Parallellogrammning bir tomoni ikkinchi tomonidan ikki marta katta , o'tkir burchagi 60^0 ga teng. Parallellogrammning katta tomonlaridan biri P tekislikda yotadi va katta diagonali ushbu tekislik bilan α burchak tashkil etadi. Agar $cos\alpha = \sqrt{\frac{103}{112}}$ bo'lsa, parallelogram tekisligi va P tekislik orasidagi ikki yoqli burchakning kosinusini toping.

A) 0,5 B) 0,1 C) 0,75 D) 0,25

221. Ifodani soddalashtiring: $\frac{1}{(n+4)!} - \frac{1}{(n+5)!}$

A) $\frac{n+4}{(n+5)!}$ B) $\frac{1}{(n+4)!(n+5)!}$ C) 0 D) $\frac{(n+4)!}{(n+5)!}$

222. Quyidagi keltirilgan tasdiqlardan qaysilari noto'g'ri?

1)Trapetsiyaning diagonallari kesishadi va kesishish nuqtasida teng ikkiga bo'linadi. 2)Agar tekislikda ikkita to'g'ri chiziq uchinchi to'g'ri chiziq bilan kesishganda hosil bo'lgan mos burchaklari 65^0 ga teng bo'lsa, u holda bu ikki to'g'ri chiziq paralleldir. 3)Teng yonli uchburchakning ixtiyoriy balandligi uning bissektrisasi ham bo'ladi. 4)Ixtiyoriy uchta nuqta orqali ko'pi bilan bitta to'g'ri chiziq o'tkazish mumkin.

A)1 , 3 B) 1 , 4 C) 2 , 3 D) 2 , 4

223. Agar x<-2 bo'lsa , $\sqrt{x^2+7x+2+\sqrt{4-12x+9x^2}}$ ifodani hisoblang.

A) 2-x B) –x-2 C) x+2 D) -2x

224. Tenglamani yeching. $6sin^2x + 13sinx + 5 = 0$

A) $x = -\frac{\pi}{6} + \pi n\,; x = \frac{\pi}{6} + 2\pi n\,, n \in Z$

B) $x = -\frac{\pi}{3} + 2\pi n\,; x = \frac{7\pi}{5} + 2\pi n\,, n \in Z$

C) $x = -\frac{\pi}{6} + 2\pi n\,; x = \frac{7\pi}{6} + 2\pi n\,, n \in Z$

D) $x = -\frac{\pi}{6} + \frac{\pi n}{2}\,; x = \frac{7\pi}{6} + \pi n\,, n \in Z$

225. $(5x-1)(2x-5)^2=(4x^2-25)(x-0,2)$ tenglama ildizlari yig'indisini toping.

A) $6\frac{1}{4}$ B) $6\frac{1}{2}$ C) $6\frac{9}{20}$ D) $2\frac{7}{10}$

226. $\frac{2}{x^2-4} + \frac{x-4}{x^2+2x} = \frac{1}{x^2-2x}$ tenglamaning barcha ildizlari yig'indisini (agar u bitta bo'sa , shu ildizni o'zini) toping.

A) -5 B) 4 C) 5 D) 3

227. $\frac{|x-2|}{x^2+3x-10} \geq 2$ tengsizlikni yeching.

A) [-5,5;2) B) [0;∞) C) [-5,5;-5)∪(-5;-4,5]

D) [-5,5;-5)

228. Quyida keltirilgan tasdiqlardan qaysilari noto'g'ri?

1)Agar parallelogrammning diagonallari teng bo'lsa, u holda parallelogram to'g'ri to'rtburchakdir.

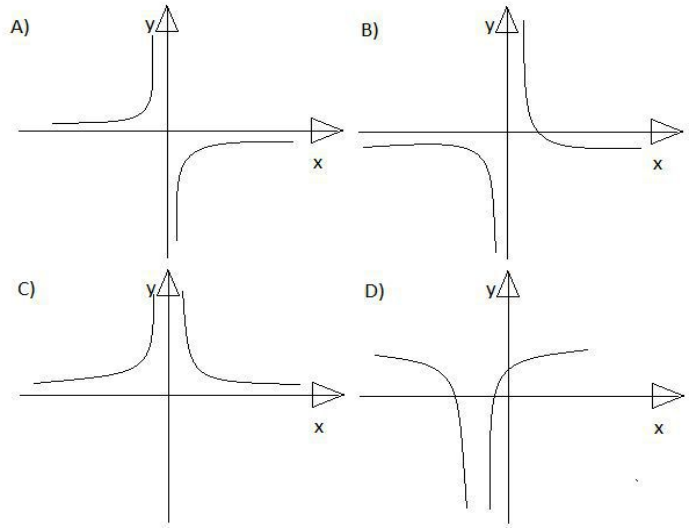
2)Aylanaga tashqi chizilgan ko'pburchakning yuzi, uning perimetri va aylana radiusi ko'paytmasiga teng.

3)Agar aylananing yoyi 80^0 ni tashkil etsa , u holda shu yoyga tiralgan ichki chizilgan burchak 40^0 ga teng.

4)Trapetsiyaning yuzi balandligining yarmi va asoslari yig'indisi ko'paytmasiga teng.

A) 2 ; 4 B) 2 ; 3 C) 1 ; 4 D) 1 ; 3

229. Juft funksiyani toping.



230. Moddiy nuqta yurgan yo'li quyidagi qonuniyat bo'yicha o'zgarmoqda. $S(t) = \frac{t^4}{4} - \frac{t^3}{3} + t^2 + 1$ (m). Harakat boshlangandan so'ng 4-sekund oxirida uning oniy tezligi necha m/s bo'ladi.

A) 52 B) 54 C) 56 D) 48

231. Ikkita katetdan teng uzoqlikda joylashgan hamda gipotenuzada yotgan nuqta gipotenuzani 20 va 30 sm uzunlikdagi kesmalarga ajratadi. Uchburchakning kichik ketetini toping.

A) $\frac{100}{\sqrt{39}}\ sm$ B) $\frac{100}{\sqrt{13}}\ sm$ C) $\frac{200}{\sqrt{13}}\ sm$ D) $\frac{100}{\sqrt{26}}\ sm$

232. Barcha qirralari $\sqrt{1,5}$ ga teng bo'lgan uchburchakli piramidaga ichki chizilgan shar radiusini toping.

A) 0,25 B) 0,5 C) 1 D) 2,5

233. $\frac{(3x+7)^2-(3x-7)^2}{x}$ kasrni qisqartiring.

A) 44 B) 14 C) 40 D) 84

234. $\left(a^{\frac{1}{3}} + b + \frac{4b^2-a^{\frac{2}{3}}}{\sqrt[3]{a}-b}\right) : \left(\frac{a^{\frac{1}{3}}}{\sqrt[3]{a^2-b^2}} - \frac{2}{\sqrt[3]{a}+b} + \frac{1}{\sqrt[3]{a}-b}\right) \cdot \frac{2}{a^{\frac{1}{3}}+b}$

A) 2b B) $b \cdot \left(b - a^{\frac{1}{3}}\right)$ C) $2b \cdot (a^{\frac{1}{3}} + b)$ D) b

235. Tenglamani yeching. $9 - 8 \cdot \sqrt[6]{x} - \sqrt[3]{x} = 0$

A) 1 B) 3 C) -1 D) 0

236. Tenglamaning ildizlar ko'paytmasini toping.

$5^{-2\log_{0,04}(3-4x^2)} + 1{,}5\log_{\frac{1}{8}} 4^x = 0$

A) 1/3 B) 1/6 C) 1/2 D) ¾

237. Tenglamalar sistemasini yeching.

$\begin{cases} x + y + xy = 0 \\ x^3 + y^3 + x^3y^3 = 12 \end{cases}$

A) $(1;\sqrt{3});(\sqrt{3};1)$ B) $(1-\sqrt{3};1+\sqrt{3})$

C) $(1+\sqrt{3};1+\sqrt{3})\,;(1-\sqrt{3};1-\sqrt{3})$

D) $(1+\sqrt{3};1-\sqrt{3});(1-\sqrt{3};1+\sqrt{3})$

238. Integralni hisoblang. $3 \cdot \int_{-1}^{3} \frac{1}{\sqrt{2x+3}}\,dx$

A) 4 B) 3 C) 9 D) 6

239. To'g'ri burchakli uchburchakning yuzi 18 ga va o'tkir burchagi 15^0 ga teng. Uchburchakning medianalar kesishish nuqtasidan gipotenuzagacha bo'lgan masofani toping.

A) 2 B) 0,8 C) 1 D) 1,5

240. Barcha qirralari teng bo'lgan uchburchakli piramidaga ichki chizilgan shar radiusi $\frac{2\sqrt{2}}{\sqrt{3}}$ ga teng. Piramida qirrasi uzunligini toping.

A) 16 B) 4 C) 8 D) 2

241. Agar A(-2;1) va B(α;-6) nuqtalar O_y o'qiga parallel ravishda o'tuvchi bir to'g'ri chiziqqa tegishli bo'lsa, a ning qiymatini toping.

A) -1 B) 2 C) 1 D) -2

242. Agar A∩B={b,c,d} va A∩B={a,d} bo'lsa, A∩(B∪C) to'plam elementlarini toping.

A) {c,d} B) {b} C) {a,c,d} D) {a,b,c,d}

243. To'g'ri javobni toping.

1)agar a<0 bo'lsa , $a+\frac{1}{a}\le -2$ bo'ladi.

2)agar a va b bir xil ishorali bo'lsa, $\frac{a}{b}+\frac{b}{a}\ge 2$ bo'ladi.

3)agar a va b bir xil ishorali bo'lsa, $\frac{a}{b}+\frac{b}{a}\le -2$ bo'ladi.

A) 2 ; 3 B) 1 ; 3 C) 1 ; 2 ; 3 D) 1 ; 2

244. To'g'ri berilgan integrallash formulalarini tanlang.

1)$\int x^p dx=\frac{x^{p+1}}{p+1}+C, p\neq -1$

2)$\int (b-kx)^p dx=-\frac{(b-kx)^{p+1}}{k(p+1)}+C, p\neq -1$

3)$\int g^p(x)\cdot g'(x)dx=\frac{g^{p+1}(x)}{(p+1)}+C,\ \ p\neq -1$

A) faqat 2 ; 3 B) faqat 1 ; 3 C) 1 ; 2 ;3 D) faqat 1; 2

245. Quyidagi tasdiqlardan qaysilari to'g'ri.

1)muntazam uchburchakka ichki va tashqi chizilgan aylanalarning markazlari ustma-ust tushadi.

2)Muntazam uchburchakka ichki chizilgan aylana markazi uning balandligining o'rtasida yotadi.

3)Muntazam uchburchakka tashqi chizilgan aylana markazi uning balandligining o'rtasida joylashgan.

A) 1 ; 3 B) 1 C) 1 ; 2 ; 3 D) 2 ;3

246. Ifodani qiymatini a=22 bo'lganda toping.

$\left(\frac{1}{a+3}-\frac{6}{9-a^2}\right):\left(\frac{a^2-6a-27}{(a^2-9)(a-3)^2}+\frac{12}{a^3-9a^2+27a-27}\right)$

A) 14,44 B) -14,4 C) 14,4 D) -14,44

247. Hisoblang. $(\log_2 7+\log_7 16+4)(\log_2 7-2\log_{28}7)\log_7 2-\log_2 7$

A) 1 B) 4 C) 3 D) 2

248. Tenglamani yeching.

$\lg(x^2-3x+1)\cdot\lg(x-1)=0$

A) 2 B) 3 C) 12 D) 10

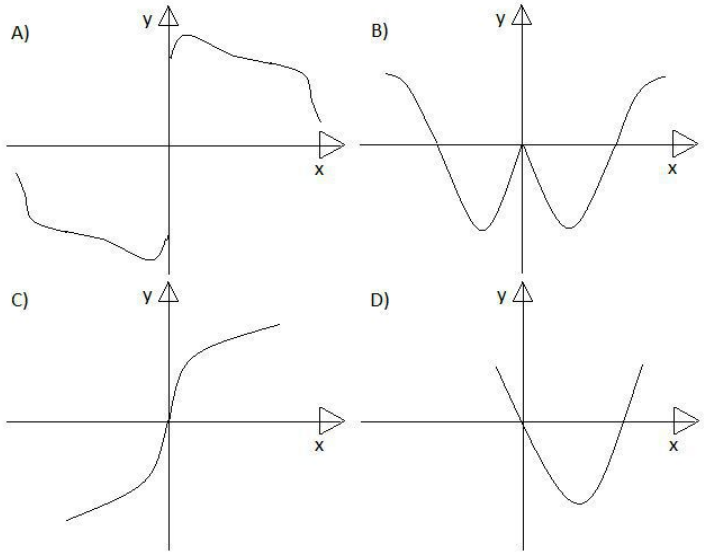
249. Toq sonning o'zidan keyin keluvchi uchta toq son bilan yig'indisi 51 dan katta. Ushbu shartni qanoatlantiruvchi eng kichik toq sonni toping.

A) 9 B) 11 C) 15 D) 13

250. x=(0,6+0,06)·(0,6-0,06)+(0,8+0,08)·(0,8-0,08) bo'lsa , eng kichik sonni aniqlang.

A) $\sqrt[3]{x}$ B) $\sqrt{x}$ C) x^3 D) x^2

251. Toq ham, juft ham bo'lmagan funksiyani ko'rsating.



252. $\int_0^1 x(x+3)(2x-1)\,dx$ integralni hisoblang.

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

253. Katetlari 24 sm va 18 sm bo'lgan to'g'ri burchakli uchburchak o'tkir burchaklarining bissektrisalarini toping.

A) $9\sqrt{10}\ sm; 8\sqrt{10}\ sm$ B) $9\sqrt{5}\ sm; 8\sqrt{10}\ sm$

C) $9\sqrt{10}\ sm; 8\sqrt{5}\ sm$ D) $8\sqrt{5}\ sm; 10\sqrt{5}\ sm$

254. N nuqta teng yonli ABCD trapetsiya AB yon tomonining o'rtasi. Agar AN=2 , <CND=90^0 bo'lsa, trapetsiya perimetrini toping?

A) 12 B) 16 C) 10 D) 14

255. Parallelogrammning o'tkir burchagi 60^0 . Agar uning diagonallari nisbati $\sqrt{\frac{19}{39}}$ ga teng bo'lsa, parallelogrammning tomonlari nisbatini toping.

A) 2:5 B) 3:5 C) 2:3 D) 3:4

256. O'n burchakli muntazam prizmaning asosiga perpendikulyar nechta diagonal kesimi mavjud.

A) 50 B) 35 C) 45 D) 55

257. Javonda 11 ta kitob bor. Diyora javondan 4 ta kitobni necha xil usul bilan olishi mumkin.

A) 990 B) 330 C) 462 D) 495

258. To'g'ri berilgan integrallash formulalarini tanlang.

1)$\int cos^2 xdx=\frac{1}{2}x+\frac{1}{4}sin2x+C$

2)$\int ctg^2 xdx=-ctgx+x+C$

3) $\int tg^2 xdx=tgx-x+C$

A) 2 ; 3 B) 1 ; 2 ; 3 C) 1 ; 3 D) 1 ; 3

259. $sin2\alpha-sin3\alpha-sin4\alpha+sin5\alpha$ ifodani ko'paytma shaklida ifodalang.

A) $-4sin\frac{7\alpha}{2}sin\frac{\alpha}{2}sin\alpha$ B) $-4sin\frac{7\alpha}{2}cos\frac{\alpha}{2}sin\alpha$

C) $-4cos\frac{7\alpha}{2}sin2\alpha sin\alpha$ D) $-4sin\frac{7\alpha}{2}cos2\alpha sin\alpha$

260. $= 5 + 3\sqrt{6}$; $y = 2 - \sqrt{6}$ bo'lsa , $\frac{x^2}{x^2-3xy} : \frac{x}{x^2-9y^2}$ ifodaning qiymatini toping.

A) 12 B) 11 C) 9 D) 10

261. Ifodani soddalashtiring.

$$\frac{a^{\frac{1}{3}}\cdot c^2 - 3b^{\frac{1}{2}}}{(c^2+3)\cdot(a^{\frac{1}{3}}+\sqrt{b})} + \frac{3a^{\frac{1}{3}}+b^{\frac{1}{2}}\cdot c^2}{(c^2-3)\cdot(a^{\frac{1}{3}}+\sqrt{b})}$$

A) $\frac{c^4+3}{c^4-3}$ B) $\frac{c^4-9}{c^4+9}$ C) $\frac{c^4+9}{c^4-9}$ D) $\frac{9}{c^4-9}$

262. $\frac{(5^x-25)\cdot(7^x-7)}{\sqrt{7-5x}} = 0$ tenglamani ildizi 5 dan qancha kam.

A) 8 B) 6 C) 4 D) 10

263. Tenglamani yeching. $\sqrt{x+2} - \sqrt{x-1} = 1$

A) 3 B) 1 C) 2 D) 0

264. $\sqrt{25-x^2} \le \frac{12}{x}$ tengsizlikni qanoatlantiradigan butun sonlar yig'indisini toping.

A) 14 B) 12 C) 15 D) 10

265. $6 \cdot \left(\sqrt{8+x} - \sqrt{5-x}\right) \le \sqrt{(8+x)(5-x)}$ tengsizlikni qanoatlantiradigan butun ildizlari ko'paytmasini toping.

A) 0 B) 120 C) 560 D) 360

266. $|x^2+7x+10| + |x^2-4| > |2x^2+7x+6|$ tengsizlikning barcha butun yechimlari yig'indisini toping.

A) -9 B) -10 C) -7 D) -6

267. $y = (1 + ctg^2x)sin^2x + \frac{2sin2x}{cosx}$ funksiyaning qiymatlari sohasini toping.

A) [-1;1)∪(1;3] B) [-1;3] C) [-3;5] D)(-3;1)∪(1;5)

268. x=1 , y=3^x , y=3^{-x} funksiyalar bilan chegaralangan sohaning yuzini toping.

A) $\log_3 e^{\frac{4}{3}}$ B) $-\log_3 e^{\frac{4}{3}}$ C) $\log_3 e^{\frac{2}{3}}$ D) $\log_3 2e$

269. ABCD trapetsiyaning AB yon tomonning o'rtasidan CD tomonga parallel qilib to'g'ri chiziq o'tkazilgan bo'lib, AD katta asosni G nuqtada kesib o'tadi. Agar AG=5 dm va GD=2,5 m bo'lsa , trapetsiyaning asoslarini toping.

A) 2 m; 1 m B) 3 m; 1 m C) 4 m; 1 m D) 3 m; 2 m

270. Aylana to'g'ri burchakli uchburchakning katta katetiga urinib , shu katet qarshisidagi burchak uchidan o'tadi, markazi esa gipotenuzada yotadi. Agar katetlarning uzunliklari 10 va 24 bo'lsa, aylananing uzunligini toping.

A) $\frac{65}{18}\pi$ B) $\frac{130}{9}\pi$ C) $\frac{260}{9}\pi$ D) $\frac{65}{9}\pi$

271. $(x) = \frac{x^2+4x-5+(x-5)\sqrt{x^2-1}}{x^2-4x-5+(x+5)\sqrt{x^2-1}}$, x>1. Ifodani soddalashtiring.

A)$f(x) = \sqrt{\frac{x-1}{x+1}}$ B)$f(x) = \sqrt{\frac{x+1}{x-1}}$

C)$f(x) = 1$ D)$f(x) = 0$

272. Agar $\sqrt{24-t^2}$ va $\sqrt{8-t^2}$ ifodaning ayirmasi 2 ga teng bo'lsa, u holda ularning yig'indisi nimaga teng bo'ladi.

A) 7 B) 8 C) 9 D) 10

273. $tg2\alpha + ctg2\alpha + tg6\alpha + ctg6\alpha$ soddalashtiring.

A) $\frac{6cos^2 12\alpha}{sin12\alpha}$ B) $\frac{8cos^2 12\alpha}{sin12\alpha}$ C) $\frac{8cos^2 4\alpha}{sin12\alpha}$ D) $\frac{6cos^2 4\alpha}{sin12\alpha}$

274. $\cos\left(\frac{\pi}{6} - \frac{\alpha}{4}\right)\sin\left(\frac{\pi}{3} - \frac{\alpha}{4}\right)sin\frac{\alpha}{4}$ soddalashtiring.

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

275. $2sin^2 3\alpha + \sqrt{3}sin6\alpha - 1$ ni ko'paytma ko'rinishida ifodalang.

A) $2\cos\left(\frac{\pi}{3} - 6\alpha\right)$ B) $\cos\left(\frac{\pi}{3} - 6\alpha\right)$ C) $2\cos\left(\frac{\pi}{3} + 6\alpha\right)$ D) $\cos\left(\frac{\pi}{3} + 6\alpha\right)$

276. $tg20^0 + 4sin20^0$ ni hisoblang?

A) $\sqrt{2}$ B) $\sqrt{3}$ C) 1 D) 0

277. sinx-cosx=1,4 ekani ma'lum bo'lsa , u holda $tg\frac{x}{2}$ ning qiymatini toping.

A) 1 va $\sqrt{2}$ B) $\sqrt{3}$ va 3 C) 2 va 3 D) 1

278. Ifodani soddalashtiring.

$\frac{1}{2}sin^2\left(2\alpha + \frac{3\pi}{2}\right) - 2(cos^4\alpha + sin^4\alpha) +$
$+2(cos^6\alpha + sin^6\alpha)$

A) $cos2\alpha$ B) $cos4\alpha$ C) $\frac{1}{2}cos2\alpha$ D) $\frac{1}{2}cos4\alpha$

279. Ifodani soddalashtiring $\frac{sin8\alpha+sin9\alpha+sin10\alpha+sin11\alpha+sin12\alpha}{cos8\alpha+cos9\alpha+cos10\alpha+cos11\alpha+cos12\alpha}$ agar $tg5\alpha = cos20^0 cos40^0 cos80^0$ bo'lsa , uning qiymatini toping.

A) $\frac{16}{63}$ B) 1 C) $\frac{12}{61}$ D) $\sqrt{3}$

280. O'suvchi arifmetik progressiyaning dastlabki uchta hadining yig'indisi 21 ga teng. Agar bu progressiya dastlabki ikkita hadining har biridan 1 ayrilsa va uchinchi hadiga 2 qo'shilsa , hosil bo'lgan bu uchta son geometrik progressiya tashkil qiladi. Hosil bo'lgan geometrik progressiya dastlabki sakkista hadini yig'indisini toping.

A) 700 B) 765 C) 868 D)688

281. Istalgan sondagi hadlarining yig'indisi shu son kvadratining to'rtlanganiga teng bo'lgan arifmetik progressiya dastlabki oltita hadining yig'indisini toping.

A) 100 B) 169 C) 144 D) 150

282. $(1+x)^n$ ning yoyilmasida to'rtinchi had 0,96 ga teng. Agar binomial koeffitsiyentlar yig'indisi 1024 ga teng bo'lsa, x va n ning qiymatini toping.

A)x=0,3 ; n=13 B) x=0,1 ; n=12 C)x=2 ; n=11
D)x=0,2 ; n=10

283. x va y ning qanday qiymatlarida $C_y^x : C_{y+2}^x : A_y^x =$

$= 1:3:24$ tenglik o'rinli bo'ladi.
A)x=3 ; y=7 B) x=4 ; y=7 C)x=3 ; y=8 D)x=4 ; y=8
284. x ning qanday qiymatlarida $(5+2x)^{16}$ yoyilmaning to'rtinchi hadi o'ziga qo'shni bo'lgan ikkita haddan katta bo'ladi.
A) $\frac{15}{26} < x < \frac{10}{13}$ B) $\frac{15}{28} < x < \frac{10}{11}$ C) $\frac{15}{28} < x < \frac{10}{13}$
D) $\frac{15}{28} < x < \frac{11}{13}$
285. Agar $\left(\sqrt[3]{x} + \frac{1}{x}\right)^n$ yoyilmasining beshinchi hadi x ga bog'liq bo'lmasa , A_n^2 ni aniqlang.
A) 120 B) 240 C) 250 D) 720
286. Yoyilma to'rtinchi hadining uchinchi hadiga nisbati $3\sqrt{2}$ ga teng bo'lishi uchun $\left(\frac{1}{\sqrt{2}} + 3\right)$ binomni qanday natural darajaga ko'tarish kerak?
A) 5-daraja B) 6-daraja C)7-daraja D) 8-daraja
287. Tenglamalar sistemasi nechta yechimga ega.
$\begin{cases} x^2 + 3xy = 54 \\ 4y^2 + xy = 115 \end{cases}$
A) 4 B) 2 C) 1 D) 0
288. $\frac{|x+2|+x}{x+1} > 1$ tengsizlikning manfiy butun yechimlari nechta.
A) cheksiz ko'p B) 2 C) 3 D) 1
289. $\frac{\sqrt[4]{48}\cdot\sqrt{245}}{\sqrt{5}\cdot\sqrt[4]{3}}$ ifodani qiymatini toping.
A) 10 B) 14 C) 1 D) 0
290. $(x_0;y_0)$ quyidagi tenglamalar sistemasini yechimi bo'lsa $x_0^2 + y_0^3$ ni toping. $\begin{cases} y - 2 = \sqrt{x} \\ \sqrt{x-3} = y - 3 \end{cases}$
A) 50 B) 60 C) 80 D) 75
291. ABCD parallelogram BE va AF bissektrisalar. AB=16 sm va BC=10 sm bo'lsa, EF ni uzunligini toping.
A) 3 B) 4 C) 5 D) 6
292. ifodani eng katta qiymatini toping. $\frac{1}{4}cos2\alpha - sin^2\alpha$
A) 0,75 B) 1 C) 0,25 D) 1,5
293. Gipotenuzaga tushurilgan balandligi h ga teng bo'lgan to'g'ri burchakli uchburchak yuzasining eng kichik qiymatini toping.
A) $\frac{h^2}{3}$ B) h^2 C) $\frac{h^2}{2}$ D) $2h^2$
294. Bir kunlik jadvalda turli fanlar bo'yicha 5 ta dars bor. 11 ta fandan iborat bo'lgan shunday jadvallar sonini aniqlang.
A) 55440 B) 55000 C) 555440 D) 32
295. 20 kishidan iborat bo'lgan guruhda uchta navbatchini necha usul bilan tanlash mumkin.
A) 1140 B) 720 C) 1440 D) 32
296. $F_1 = 2$, $F_n = \left(\sqrt{3 + 2\sqrt{F_{n-1}}} - 1\right)^2$ bo'lsa $F_{2019} - F_{2018}$ ni hisoblang.
A) 0 B) 1 C) 2017 D) 2019
297. Markazi O nuqtada bo'lgan aylanadan tashqaridagi P nuqtadan aylanaga PC kesuvchi va PA=4 urunmalar o'tkazilgan. Kesuvchi bilan aylana B nuqtasida kesishishadi. PB=2, $< APC = 60^0$, $< PCA = 30^0$ AC va BC vatarlar bilan va AB yoy bilan chegaralangan soha yuzasini toping.
A)$2\pi - 3\sqrt{3}$ B)$12\pi - 3\sqrt{3}$ C)$8\pi - 3\sqrt{3}$ D)$2\pi + 3\sqrt{3}$
298. $f(x)=-3x^2+9x+t-3$ funksiyaning maksimumini 4 ga teng t ning qiymatini toping.
A) 0,75 B) -3 C) -1 D) 0,25
299. Muntazam to'rtburchakli kesik piramida apofemasi va asosining tomonlari 5:8:2 kabi nisbatda, hajmi $1\frac{3}{4}\ m^3$. To'la sirtini yuzini toping.
A) 10,25 B) 10,5 C) 6,5 D) 6,25
300. Quyidagilarni qaysi biri to'plamlar uchun o'rinli?
1)Agar to'plamni tashkil qilgan elementlar chekli sonda bo'lsa, bunday to'plam chekli to'plam , aks holda cheksiz to'plam deyiladi.
2)Birorta ham elementga ega bo'lmagan to'plam bo'sh to'plam deyiladi.
3)Agar A to'plamning hamma elementlari B to'plamga tegishli bo'lsa, A to'plam B to'plamning qism to'plami deyiladi.
A) 1 ; 3 B) 1 ; 2 C) 2 ; 3 D) 1 ; 2 ; 3
301. Quyidagilarni qaysi biri to'plamlar uchun o'rinli?
1) A , B to'plamlarning birlashmasi deb bu to'plamlardan kamida bittasining elementi bo'lgan elementlardan tashkil topgan to'plamga aytiladi.
2) A , B to'plamlarning kesishmasi deb bu top'lamlarning umumiy elementlaridan tashkil topgan to'plamga aytiladi.
3) A to'plamning A' to'ldiruvchisi deb U universal to'plamning A ga tegishli bo'lmagan barcha elementlari to'plamiga aytiladi.
A) 1 ; 2 ; 3 B) 1 ; 2 C) 2 ; 3 D) 1 ; 3
302. Agar B to'plam n ta elementga ega bo'lsa, u holda B to'plam nechta qism to'plamga ega?
A) n ta B) 2^{n-1} C) 2^{n+1} D) 2^n
303. A={x|0≤x≤1,x∈R} to'plamning elementlari toping.
A) 0 ; 1 ; 2 B) 0 ; 1 C) 1 ; 2 D) 0 ; 0,5 ; 1
304. P={50 dan kichik 4 ga karrali natural sonlar} ; Q={50 dan kichik 6 ga karrali natural sonlar}
n(P)+n(Q)−n(P ∩ Q) ni toping
A) 16 B) 20 C) 18 D) 5
305. A={40 dan kichik 4 ga karrali natural sonlar}; B={ 40 dan kichik 6 ga karrali natural sonlar}; C={40 dan kichik 12 ga karrali natural sonlar};
n(A)+n(B)+n(c)−n(A ∩ B)−n(B ∩ C)−n(A ∩ C)+ +n(A ∩ B ∩ C) ni toping
A) 12 B) 10 C) 16 D) 20

306. 50 ta talabadan 40 tasi ingliz tilini , 25 tasi esa nemis tilini o'rganmoqda. Ikkila tilni ham o'rganayotgan talaba nechta?

A) 65 B) 10 C) 25 D) 15

307. Tenglama yechimlari yig'indisini toping.

$\frac{x^2+3x+2}{x^2-x+2}+\frac{x}{x^2-2x+2}=1$

A) 0 B) 1 C) 2 D) 3

308. Teng kuchli tenglamalarni ko'rsating.

1)10x=8+2 2)$x^2=4$ 3)2x+18=$-x^2$

A) 1 va 3 B) 2 va 3 C) 1 va 2 D) hammasi

309. Tenglamaning katta ildizini toping:

(x-5)(x+4)(x+11)=0

A) -4 B) 5 C) 16 D) 11

310. Tenglamalar sistemasining nechta yechimi bor?

$\begin{cases} x^2+y^2=10 \\ xy=3 \end{cases}$

A) 2 B) 4 C) 3 D)1

311. Tenglamalar sistemasining nechta yechimi bor?

$\begin{cases} \sqrt{x}+\sqrt{y}=11 \\ \sqrt{xy}=30 \end{cases}$

A) 1 B) 2 C) 3 D) 4

312. Tekislikda A(3;1) va B)(7;3) nuqtalardan teng uzoqlikda joylashgan C(5;x) nuqtani toping.

A) (5;2) B) (5;3) C) (4;2) D) (4;3)

313. Quyidagi mulohazalardan qaysilari to'g'ri.

1) Tekislikda qanday to'g'ri chiziq olinmasin , unda bu to'g'ri chiziqqa tegishli bo'lgan nuqtalar ham, tegishli bo'lmagan nuqtalar ham mavjud.

2) Har qanday ikki nuqtadan faqat bitta to'g'ri chiziq o'tadi.

3) Bir to'g'ri chiziqda olingan istalgan uchta nuqtaning faqat bittasi qolgan ikkitasining orasida yotadi.

A) 1 ; 2 B) 2 ; 3 C) 1 ; 3 D) 1 ; 2 ; 3

314. Quyidagi mulohazalardan qaysilari to'g'ri.

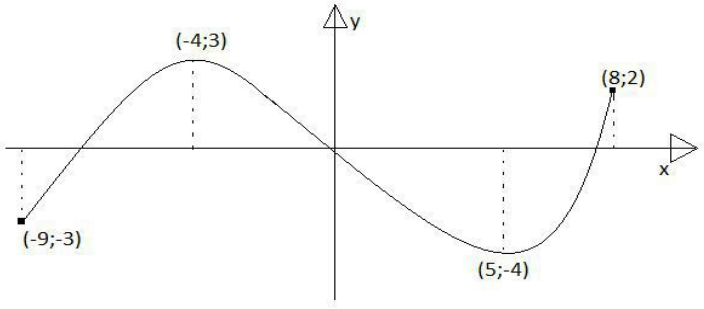
1) Har bir to'g'ri chiziq tekislikni ikki bo'lakka: ikkita yarim tekislikka ajratadi.

2) Har qanday kesma noldan farqli tayin uzunlikka ega.

3) Tekislikda to'g'ri chiziqdan tashqarida olingan nuqtadan bu to'g'ri chiziqqa faqat bitta parallel to'g'ri chiziq o'tkazish mumkin.

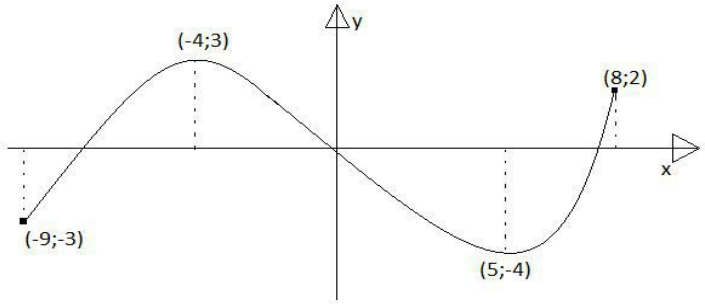
A) 1 ; 2 B) 2 ; 3 C) 1 ; 3 D) 1 ; 2 ; 3

315. Funksiyaning aniqlanish sohasini toping.



A) (-9;8) B) [-9;8] C) (-4;3) D) [-4;3]

316. Funksiyaning qiymatlar sohasini toping.



A) (-9;8) B) [-9;8] C) (-4;3) D) [-4;3]

317. Quyidagi mulohazalarni tekshiring.

1.Bir to'g'ri chiziqda yotmagan uchta nuqta orqali bitta va faqat bitta tekislik o'tkazish mumkin.

2.To'g'ri chiziq va unda yotmagan nuqta orqali bitta va faqat bitta tekislik o'tkazish mumkin.

3.Kesishuvchi ikki to'g'ri chiziq orqali bitta va faqat bitta tekislik o'tkazish mumkin.

4.Parallel ikki to'g'ri chiziq orqali bitta va faqat bitta tekislik o'tkazish mumkin.

A) 1 va 4 to'gri B) 2 va 3 noto'g'ri

C) hammasi to'g'ri D) 1 , 2 va 3 to'g'ri

318. Agar f(2x)=6x³+4x²+2x+1 bo'lsa f '(2)-f(2) ni toping.

A) 3 B) 1 C) 4 D) 2

319. a va b manfiy butun sonlar uchun a=b+3 va a+b-c=13 bo'lsa , c ning eng katta qiymatini toping.

A) -17 B) -16 C) -18 D) -15

320. $\frac{2}{3-x}+\frac{1}{2}=\frac{6}{x(3-x)}$ tenglamani yeching.

A) 4 B) 5 C) 3 D) 2

321. $\sqrt{x-2}=x-4$ tenglamani yeching.

A) 3 va 6 B) 6 C) 3 D) 2 va 4

322. $\sqrt{1-4x}+2=\sqrt{(2x+1)^2-8x}$ tenglamani yechimlar yig'indisini toping.

A) -2 B) 0 C) -3 D)2

323. $(x+1)(x^2+2)+(x+2)(x^2+1)=2$ tenglamani yechimlar ko'paytmasini toping.

A) 0 B) -1 C) -2 D) 1

324. $\sqrt[3]{(5+x)^2}+4\sqrt[3]{(5-x)^2}=5\sqrt[3]{25-x^2}$ tenglamani yeching.

A) 0 va $\frac{63}{13}$ B) 1 va $\frac{63}{14}$ C) 1 va $\frac{63}{13}$ D) 0 va $\sqrt{2}$

325. Tenglamani yechimi bo'ladigan natural sonlar yig'indisini toping.

$\sqrt{x+3-4\sqrt{x-1}}+\sqrt{x+8-6\sqrt{x-1}}=1$

A) 35 B) 45 C) 55 D) 26

326. $\begin{cases} 2x+y+z=7 \\ x+2y+z=8 \\ x+y+2z=9 \end{cases}$ bo'lsa x+y-z ni toping.

A) 6 B) 5 C) 0 D) 3

327. $\begin{cases} x\sqrt{y}+y\sqrt{x}=6 \\ x^2y+y^2x=20 \end{cases}$ tenglamalar sistemasini yeching.

A) (9;1); (1;9) B) (4;0); (0;4)
C) (4;9); (9;4) D) (4;1); (1;4)

328. Quyidagi mulohazalardan qaysilari to'g'ri.
1. Muntazam piramidaning yon sirti uning asosining yarim perimetri va apofemasining ko'paytmasiga teng.
2. Konusning yon sirti uning asosi yuzining yarmi va yasovchisining ko'paytmasiga teng.
3. To'g'ri chiziq va unda yotmaydigan nuqta orqali bitta va faqat bitta tekislik o'tkazish mumkin.
A) 1 va 2 B) 2 va 3 C) 1 va 3 D) 1 , 2 va 3

329. $\sqrt{5}\cdot 0{,}2^{\frac{1}{2x}}-0{,}04^{1-x}=0$ tenglamani yeching
A) 1 va 0,5 B) 1 va 0,25 C) 1 va 0,75 D) 1

330. $35\cdot 3^{x^2}-35\cdot 5^{2x}-3^{x^2}+5^{2x}=0$ tenglama nechta butun yechimga ega.
A) 1 B) 2 C) 3 D) 0

331. Quyidagi mulohazalardan qaysilari to'g'ri.
1. Tekislikda unga tegishli bo'lgan va tegishli bo'lmagan nuqtalar mavjud.
2. Agar to'g'ri chiziqning ikki nuqtasi bitta tekislikda yotsa, u holda uning barcha nuqtalari shu tekislikda yotadi.
3. Agar ikki tekislik umumiy nuqtaga ega bo'lsa, u holda ular shu nuqtadan o'tuvchi umumiy to'g'ri chiziqqa ham ega bo'ladi.
A) 1 va 2 B) 2 va 3 C) 1 va 3 D) 1 , 2 va 3

332. $4^{\sqrt{x}}-9\cdot 2^{\sqrt{x}-1}+2=0$ tenglamani yeching.
A) 9 B) 0,(3) C) 4 D) 4 va 0,(3)

333. $|x-2|^{x^2-2x}=|x-2|^{5x-10}$ tenglama yechimlar ko'paytmasini toping.
A) 8 B) 12 C) 15 D) 20

334. $2(lgx-lg6)=lgx-2\lg(\sqrt{x}-1)$ tenglamani yeching.
A) 5 B) 8 C) 9 D) 6

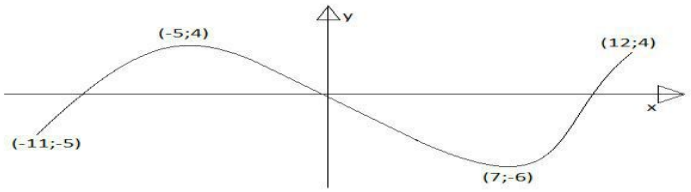
335. Quyidagi tenglamani yeching.
$log_{0,5}\sqrt{1+x}+3log_{\frac{1}{4}}(1-x)=log_{\frac{1}{16}}(1-x^2)^2+2$
A) 0,25 B) 0,75 C) 0,5 D) 1

336. $x^{\frac{lgx+5}{3}}=10^{lgx+1}$ tenglama yechimlar yig'indisini toping.
A) 11 B) 10,1 C) 10,001 D) 10,01

337. $log_x(2x^2-4x+3)=2$ tenglamani yeching.
A) 3 B) 2 C) 4 D) 0,1

338. $log_3(x+6)\cdot log_x 3=2$ tenglamani yeching
A) 0,1 B) 4 C) 2 D) 3

339. Funksiyaning lokal minimum va lokal maksimum nuqtalarini toping.



A)lokal minimum nuqtasi 7
lokal maksimum nuqtasi -5
B)lokal minimum nuqtasi -6
lokal maksimum nuqtasi 4
C)lokal minimum nuqtasi -5
lokal maksimum nuqtasi 4
D)lokal minimum nuqtasi -11
lokal maksimum nuqtasi 12

340. Quyidagi mulohazalardan qaysilari o'rinli.
1.Uchinchi to'g'ri chiziqqa parallel ikki to'g'ri chiziq o'zaro paralleldir.
2.Parallelepipedning barcha diagonallari bitta nuqtada kesishadi va bu nuqtada teng ikkiga bo'linadi.
3.Agar ikki to'g'ri chiziqdan biri biror tekislikda yotsa, ikkinchisi esa bu tekislikni birinchi to'g'ri chiziqda yotmagan nuqtada kesib o'tsa, u holda bu to'g'ri chiziqlar ayqash bo'ladi.
A) faqat 1 B) faqat 1 va 2 C) faqat 3 D) hammasi

341. Quyidagi mulohazalardan qaysilari o'rinli.
1.Ikki to'g'ri chiziqning kesishishidan hosil bo'lgan qo'shni burchaklarning kichigi ikki to'g'ri chiziq orasidagi burchak deyiladi.
2.Agar tekislikda yotmagan to'g'ri chiziq shu tekislikdagi biror to'g'ri chiziqqa parallel bo'lsa, bu to'g'ri chiziq tekislikning o'ziga ham parallel bo'ladi.
3.Ikki parallel tekislikning uchinchi tekislik bilan kesishish to'g'ri chiziqlari o'zaro parallel bo'ladi.
A) faqat 1 B) faqat 1 va 2 C) faqat 3 D) hammasi

342. $lgx^2=0{,}25lg(4x+3)^4$ yechimlar yig'indisini toping.
A) 0 B) $2-\sqrt{7}$ C) $2+\sqrt{7}$ D) -4

343. $\sin\left(\frac{\pi}{6}-2x\right)=\frac{\sqrt{3}}{2}$ tenglamani yeching.
A) $x=(-1)^{n+1}\frac{\pi}{6}+\frac{\pi}{12}(6n+1), n\in Z.$
B) $x=(-1)^{n}\frac{\pi}{6}+\frac{\pi}{12}(6n+1), n\in Z.$
C) $x=(-1)^{n+1}\frac{\pi}{6}+\frac{\pi}{12}(4n+1), n\in Z.$
D) $x=(-1)^{n}\frac{\pi}{3}+\frac{\pi}{12}(6n+1), n\in Z.$

344. Quyidagi mulohazalardan qaysilari o'rinli.
1.Berilgan tekislikka undan tashqaridagi nuqtadan yagona parallel tekislik o'tkazish mumkin.
2.Uchinchi tekislikka parallel ikki tekislik o'zaro parallel bo'ladi.
3.Uchta parallel tekisliklar orasidagi ixtiyoriy to'g'ri chiziqlar kesmalari o'zaro proporsional bo'ladi.
A) faqat 1 B) faqat 1 va 2 C) faqat 3 D) hammasi

345. $z_1 = 1 + 2i$, $z_2 = 2 - i$ kompleks sonlarning haqiqiy va mavhum qismlarini toping.

A) $Re(z_1) = 1$; $Re(z_2) = 2$; $Im(z_1) = 2$; $Im(z_2) = -1$

B) $Re(z_1) = 2$; $Re(z_2) = 2$; $Im(z_1) = 1$; $Im(z_2) = -1$

C) $Re(z_1) = 2$; $Re(z_2) = 1$; $Im(z_1) = -1$; $Im(z_2) = 2$

D) $Re(z_1) = 2$; $Re(z_2) = -1$; $Im(z_1) = 1$; $Im(z_2) = 2$

346. $z = 3 - 2i$ kompleks songa qo'shma kompleks sonni yozing.

A) $z = -3 - 2i$ B) $z = 3 + 2i$

C) $z = -3 + 2i$ D) $z = 2 - 3i$

347. $2\left(3 - \frac{1}{2}i\right) - 2i(3 + i)$ hisoblang.

A) $8 - 7i$ B) $8 + 7i$ C) $-i$ D) i

348. $Re(z) = 4$, $Im(z) = -5$ kompleks sonlarni algebraik ko'rinishida yozing.

A) $z = 8 + i$ B) $z = 4 + 5i$

C) $z = -5 + 4i$ D) $z = 4 - 5i$

349. $z = i$ kompleks sonlarni trigonometrik ko'rinishida yozing.

A) $cos\frac{\pi}{2} - isin\frac{\pi}{2}$ B) $cos\frac{\pi}{2} + isin\frac{\pi}{2}$

C) $sin\frac{\pi}{2} - icos\frac{\pi}{2}$ D) $sin\frac{\pi}{2} + icos\frac{\pi}{2}$

350. $z_1 = \frac{\sqrt{3}}{2}\left(cos\frac{\pi}{4} + isin\frac{\pi}{4}\right)$, $z_2 = \frac{1}{2}\left(cos\frac{\pi}{6} + isin\frac{\pi}{6}\right)$ bo'lsa $z_1 \cdot z_2$ toping.

A) $z_1 \cdot z_2 = \frac{\sqrt{3}}{4}\left(cos\frac{\pi}{12} - isin\frac{\pi}{12}\right)$

B) $z_1 \cdot z_2 = \frac{\sqrt{3}}{4}\left(cos\frac{5\pi}{12} - isin\frac{5\pi}{12}\right)$

C) $z_1 \cdot z_2 = \frac{\sqrt{3}}{4}\left(cos\frac{\pi}{12} + isin\frac{\pi}{12}\right)$

D) $z_1 \cdot z_2 = \frac{\sqrt{3}}{4}\left(cos\frac{5\pi}{12} + isin\frac{5\pi}{12}\right)$

351. $z_1 = \sqrt{2}\left(cos\frac{\pi}{8} + isin\frac{\pi}{8}\right)$, $z_2 = 2\left(cos\frac{\pi}{12} + isin\frac{\pi}{12}\right)$ bo'lsa $z_1 : z_2$ toping.

A) $z_1 : z_2 = \frac{\sqrt{2}}{2}\left(cos\frac{5\pi}{24} - isin\frac{5\pi}{24}\right)$

B) $z_1 : z_2 = \frac{\sqrt{2}}{2}\left(cos\frac{5\pi}{24} + isin\frac{5\pi}{24}\right)$

C) $z_1 : z_2 = \frac{\sqrt{2}}{2}\left(cos\frac{\pi}{24} + isin\frac{\pi}{24}\right)$

D) $z_1 : z_2 = \frac{\sqrt{2}}{2}\left(cos\frac{\pi}{24} - isin\frac{\pi}{24}\right)$

352. $z = 3\left(cos\frac{\pi}{15} + isin\frac{\pi}{15}\right)$ $bo'lsa$ z^5 ni $toping.$

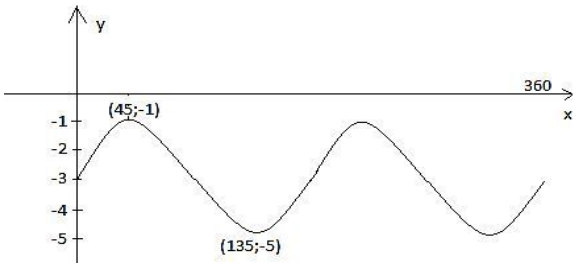
A) $z^5 = 15\left(cos\frac{\pi}{3} + isin\frac{\pi}{3}\right)$

B) $z^5 = 343\left(cos\frac{\pi}{3} + isin\frac{\pi}{3}\right)$

C) $z^5 = 343\left(cos\frac{\pi}{3} - isin\frac{\pi}{3}\right)$

D) $z^5 = 15\left(cos\frac{\pi}{3} - isin\frac{\pi}{3}\right)$

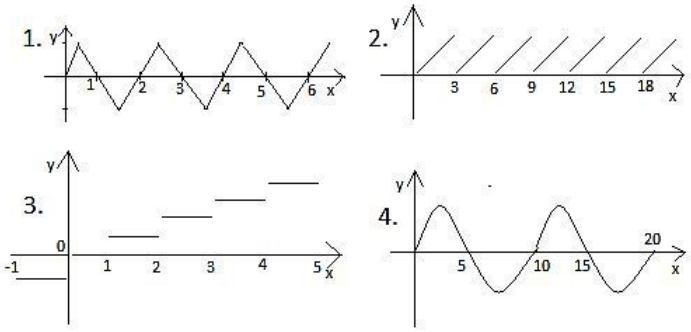
353. $y = asinbx + c$ funksiya grafigiga qarab a, b, c, sonlarni toping.



A) $y = 2sin2x - 3$ B) $y = 2sin2x + 3$

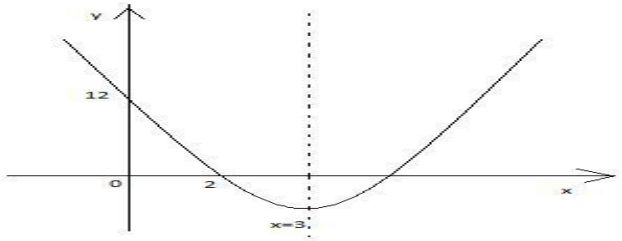
C) $y = -2sin2x - 3$ D) $y = -2sin2x + 3$

354. Grafiklardan qaysi biri davriy jarayonni ifodalaydi.



A) 1 ; 3 ; 4 B) 2 ; 3 ; 4 C) 1 ; 2 ; 3 D) 1 ; 2 ; 4

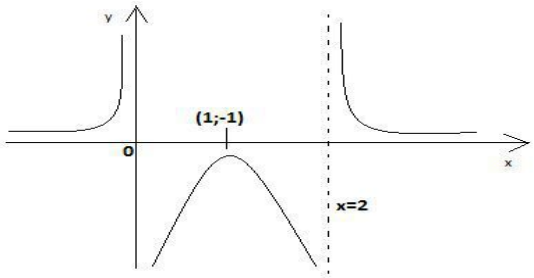
355. Parabolaga qarab , kvadrat funksiya formulasini yozing.



A) $y = \frac{3}{2}(x + 2)(x - 3)$ B) $y = \frac{3}{2}(x - 2)(x - 3)$

C) $y = \frac{3}{2}(x - 2)(x - 4)$ D) $y = \frac{3}{2}(x - 3)(x - 4)$

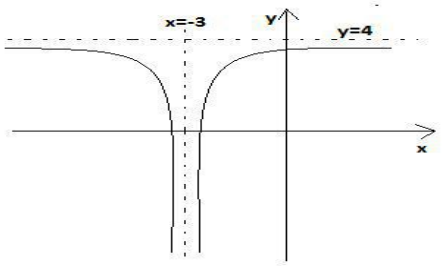
356. Funksiyaning qiymatlar sohasini toping.



A) $(-\infty; -1] \cup (0; \infty)$ B) $(-\infty; 0) \cup (0; 2) \cup (2; \infty)$

C) $(-\infty; -1) \cup (0; \infty)$ D) $(-\infty; 0) \cup (0; \infty)$

357. Funksiyaning kamayish va o'sish oraliqlarini toping.



A) $(-3; \infty)$ $kamayadi$; $(-\infty; -3)$ $o'sadi$

B) $(-\infty;4]$ $kamayadi$; $[4;\infty)$ $o'sadi$
C) $(-\infty;-3]$ $kamayadi$; $[-3;\infty)$ $o'sadi$
D) $(-\infty;-3)$ $kamayadi$; $(-3;\infty)$ $o'sadi$

358. $\lim_{h\to 0}\frac{3h^2-4h}{h}$ ni hisoblang.
A) 0 B) 3 C) -4 D) 4

359. $f(x)=e^x$ funksiya grafigiga abssissasi $x_0=1$ nuqtadan o'tkazilgan normal tenglamasini toping.
A) $y=\frac{1}{e}x+e+\frac{1}{e}$ B) $y=-\frac{1}{e}x+e+\frac{1}{e}$
C) $y=-\frac{1}{e}x+e$ D) $y=-\frac{1}{e}x+\frac{1}{e}$

360. Ma'lumot qatorining modasini toping.
2, 5 ,9, 1, 2, 3, 3, 5, 5, 5, 7, 3, 3
A) 1 va 9 B) 2 C) 3 va 5 D) 9

361. Ma'lumot qatorining medianasini toping.
2, 3, 3, 3, 4, 4, 4, 5, 5, 5, 6, 6, 6, 7, 8, 8, 9
A) 5 B) 6 C) 3 D) 4

362. Akbar konfet, shikolad va muzqaymoq yemoqchi. Buni u necha usul bilan bajarishi mumkin.
A) 24 ta B) 6 ta C) 2 ta D) 720 ta

363. $3cos^2\left(\frac{x}{2}-\frac{\pi}{4}\right)-2cosx=4$ tenglamani yeching.
A) $x=2arctg3+2\pi n\,, n\in Z$
B) $x=2arctg3+\pi n\,,\ n\in Z$
C) $x=\frac{\pi}{4}+2\pi n\,, n\in Z$ D) $x=\frac{\pi}{4}+\pi n\,, n\in Z$

364. $\sin(\pi cos2x)=1$ tenglamani yeching.
A) $x=\frac{\pi}{6}+\pi n$ B) $x=\pm\frac{\pi}{6}+\pi n$
C) $x=\pi n$ D) $x=-\frac{\pi}{6}+\pi n$

365. Raqamlari yig'indisi 4 dan kichik bo'lgan to'rt xonali sonlar nechta?
A) 120 B) 6 C) 15 D) 24

366. $\frac{(x+3)(5-x)}{2x-5}>0$ tengsizlikni yeching.
A) $(-3;2{,}5)$ B) $(2{,}5;5)$ C) $(-\infty;3)\cup(2{,}5;5)$
D) $(-3;2{,}5)\cup(5;\infty)$

367. $\frac{x^2(2x-9)(x-1)^3}{(x+4)^5(2x-6)^4}\le 0$ tengsizlikning eng katta butun yechimini toping.
A) -4 B) 4 C) 2 D) 0

368. Birinchi raqam 2 bo'lgan va 1, 2, 3, 4 va 5 raqamlardan tashkil topgan uch xonali sonlar nechta.
A) 20 B) 25 C) 30 D) 35

369. $\frac{\sqrt{x}-3}{x-2}>0$ tengsizlikni yeching.
A) $[0;2)\cup(9;\infty)$ B) $(2;9)$ C) $(0;2)\cup(9;\infty)$ D) $(9;\infty)$

370. Zavodda beshta guruh ishchilari mavjud. Shu guruhlardan ikki nafar qorovulli tanlashimiz kerak, bunda har qanday juftlikda turli guruh ishchilari bo'lishi kerak. Buni necha usulda amalga oshirsa bo'ladi.
A) 6 B) 24 C) 10 D) 64

371. $\lim_{x\to 0}(\sqrt{1+x}-1)$ hisoblang.
A) 2 B) 0 C) 1 D) -1

372. Savatda 5 ta olma va 3 ta nok bor. Savatdan 1 ta meva tanlashni necha usulda amalga oshirish mumkin.
A) 8 B) 24 C) 5 D) 3

373. $\sqrt{x+61}<x+5$ tengsizlikni yeching.
A) (-5;∞) B) (-5;61) C) (61;∞) D) (3;∞)

374. $\frac{\left(\frac{1}{3}\right)^{8+x}-81}{x^2+2x+5}<0$ tengsizlikni yechimi bo'ladigan eng kichik butun sonni toping.
A) -2 B) 0 C) 2 D) -11

375. Orolga 7 ta yo'l olib boradi. Agar orolga borish va qaytish yo'llari xar xil yo'llar bilan amalga oshirilsa, bu ishni necha usulda amalga oshirish mumkin.
A) 21 B) 49 C) 28 D) 42

376. $0{,}4^{log_2^2x+1}<6{,}25^{2-\log_2 x^3}$ tengsizlikni yeching.
A) (32;∞) B) {1}∪(32;∞) C) (0;2)∪(32;∞) D) 1

377. $\log_{\frac{1}{3}}\log_{\frac{1}{2}}\frac{x+4}{2x-3}<0$ eng katta butun yechimi va yechimi bo'lmaydigan eng kichik butun sonlarning yig'indisini toping.
A)-8 B) -9 C) -7 D) -6

378. Uyimizda 5 ta turli aftomobil, 3 ta turli vilosiped, 4 ta turli samakat bor. Aftomobil va vilosiped juftligini necha usulda tanlashimiz mumkin.
A) 24 B) 47 C) 60 D) 15

379. $y=\sqrt{1-\log_8(x^2-4x+3)}$ funksiyaning aniqlanish sohasiga tegishli butun sonlarni ko'paytmasini toping.
A) 0 B) -12 C) 6 D) -6

380. ABC uchburchakning yuzi 30 sm² ga teng. AC tomonda D nuqta shunday olinganki AD:DC=2:3 bo'ladi. BC tomonga o'tkazilgan DE perpendikularning uzunligi 9 sm ga teng. BC ni toping.
A) 2 sm B) 4 sm C) 8 sm D) 10 sm

381. Teng yonli uchburchakda asosga va yon tomonga o'tkazilgan balandliklar mos ravishda 10 va 12 sm ga teng. Asosning uzunligini toping.
A) $15\sqrt{3}$ sm B) 15 sm C) 21 sm D) $12\sqrt{3}$ sm

382. Uyimizda 5 ta turli aftomobil, 3 ta turli vilosiped, 4 ta turli samakat bor. Aftomobil, vilosiped va samakat uchligini necha usulda tanlashimiz mumkin.
A) 24 B) 47 C) 60 D) 15

383. Ikkita aylana tashqi tomondan urinadi. Ulardan birinchisiga ikkinchi aylananing markazidan o'tuvchi urinma o'tkazilgan. Urinish nuqtasidan ikkinchi aylananing markazigacha bo'lgan masofa shu aylana radiusining uchlanganiga teng. Birinchi aylananing uzunligi ikkinchi aylananing uzunligidan necha marta katta.
A) 4 B) 2 C) 1,5 D) 2,5

384. To'g'ri burchakli uchburchakda o'tkir burchakning bissektrisasi o'tkazilgan. Uning asosini medianalar kesishish nuqtasi bilan tutashtiruvchi kesma katetga perpendikulyar. Uchburchakning burchaklarini toping.
A)$22{,}5^0$ va $67{,}5^0$ B) 15^0 va 75^0
C) 45^0 va 45^0 D) 30^0 va 60^0

385. Uyimizda 5 ta turli aftomobil, 3 ta turli vilosiped, 4 ta turli samakat bor. Ixtiyoriy ikkita juftligini necha xil usulda tanlashimiz mumkin.
A) 24 B) 47 C) 60 D) 15

386. DABC piramida ABC asosining BE medianasi va DC qirrasining o'rtasi F orqali tekislik o'tkazilgan. Agar DABC piramidaning hajmi 40 sm^3 ga teng bo'lsa, ADBFE shaklning hajmini toping.
A) 20 sm^3 B) 25 sm^3 C) 30 sm^3 D) 28 sm^3

387. Qirrasining uzunligi a ga teng bo'lgan $ABCDA_1B_1C_1D_1$ kub berilgan. AA_1 qirrada E nuqta shunday olinganki , bunda $AE = \frac{a}{4}$ bo'ladi. Uchi A_1 nuqta bo'ladigan, asosi esa D, E va BB_1 qirraning ixtiyoriy ichki nuqtasi orqali o'tuvchi kub kesimidan iborat bo'lgan piramidaning hajmini toping.
A) $\frac{a^3}{4}$ B) $a^3\sqrt{3}$ C) $\frac{a^3\sqrt{3}}{2}$ D) $\frac{a^3}{3}$

388. Barcha raqamlari juft bo'lgan besh xonali sonlar nechta?
A) 720 B) 2500 C) 1800 D) 1000

389. Tomoni a ga teng bo'lgan ABCD rombning C uchidan rombni uchta tengdosh shaklga bo'luvchi CE va CF kesmalar o'tkazilgan. cosC=0,25 ekani ma'lum bo'lsa, CE+CF ni toping.
A) $4\sqrt{2}a$ B) $\frac{4\sqrt{3}a}{3}$ C) $\frac{4a}{3}$ D) $\frac{8a}{3}$

390. Ishchilar guruhi bir topshiriqni bajardi. Agar guruh 20 kishiga qisqartirilsa, u holda guruh xuddi shunday topshiriqni dastlabki tarkibidagiga nisbatan 5 kun kechroq bajaradi, agar guruh 15 kishiga orttirilsa, u holda ular ishni 2 kun oldin bajaradi. Guruhda dastlab necha kishi bo'lgan.
A) 40 B) 50 C) 60 D) 10

391. Sug'orish uchun suv haydayotgan uchta nasos ishni bir vaqtda boshladi. Birinchi va uchinchi nasoslar ishni bir vaqtda tugatishdi, ikkinchi nasos esa ishni ish boshlanganida 2 soat keyin tugatdi. Natijada birinchi nasos 9 m^3, ikkinchi va uchinchi nasoslar birgalikda 28 m^3 suv haydashdi. Agar uchinchi nasos bir soatda birinchi nasosga nisbatan 3 m^3 ko'p suv haydashi va uchta nasos birgalikda ishlab, bir soatda 14 m^3 suv haydashi ma'lum bo'lsa, har bir nasos bir soatda qancha m^3 miqdorda suv haydaydi?
A) 3 ; 5 ; 6 B) 5 ; 6 ; 7 C) 1 ; 3 ; 4 D) 2 ; 3 ; 4

392. Futbol jamoasida 11 nafar o'yinchi bor. Jamoa sardori va uning yordamchisi necha usulda tayinlanishi mumkin.
A) 121 B) 110 C) 2048 D) 720

393. 219 xonada Nozliya, Abduxoliq, Asilbek, Muhayyo va Dilmira navbatchilardir. Bir nafar o'g'il bola va bir nafar qiz bolani navbatchilikka tanlash uchun necha usulda amalga oshirsa bo'ladi.
A) 24 ta B) 12 ta C) 6 ta D) 8 ta

394. P ning qanday qiymatlarida $x^2 - (2^p - 1)x - 3(4^{p-1} - 2^{p-2}) = 0$ tenglama teng ildizlarga ega bo'ladi.
A) 0 va 1 B) -2 va -1 C) 0 va -2 D) 1 va -2

395. |x-1|·|x+2|=4 tenglama ildizlar ko'paytmasini toping.
A) 1 B) 2 C) -3 D) -6

396. $2\log_{0,5} a - 3 + 2x\log_{0,5} a - x^2 < 0$ tengsizlik O_x o'qning istalgan nuqtasida bajaraladigan a ning barcha qiymatlar yig'indisini toping.
A) 16 B) 21 C) 45 D) 28

397. Kasrni qisqartiring. $\frac{n!}{(n+1)!-n!}$
A) 1/n B) n C) 1 D) 2/n

398. $\lim_{x\to 2}\frac{x^3-8}{2x-4}$ ni hisoblang.
A) 0 B) 1 C) 6 D) 2

399. $\lim_{x\to 4}\frac{\sqrt{x^2-7}-3}{x-4}$ ni hisoblang.
A) 1,5 B) 4/3 C) 1 D) 0

400. $f(x) = \frac{x^2+4}{x-2}$ funksiyaning grafigiga uning ordinatalar o'qi bilan kesishish nuqtasidan o'tkazilgan urinmaning tenglamasini tuzing.
A) y=-x+2 B) y=x-2 C) y=x+2 D) y=-x-2

401. 3 ta oq, 2 ta qizil va 4 ta sariq atirgul bor. Uchta guldan iborat guldastani necha usulda tuzish mumkin.
A) 8 B) 24 C) 120 D) 12

402. $f(x) = \frac{(x-2)^2}{x^2}$ funksiyaning o'sish oralig'ini toping.
A) (0;2) B) (-∞;0) C) (-∞;0)∪(2;∞) D) (2;∞)

403. f(x)=2sinx+sin2x funksiyaning $[0;\frac{3\pi}{2}]$ kesmadagi eng kichik va eng katta qiymatlarini toping.
A) $y_{min}=0$; $y_{max}=1$ B) $y_{min}=0$; $y_{max}=1{,}5\sqrt{3}$
C) $y_{min}=-2$; $y_{max}=0$ D) $y_{min}=-2$; $y_{max}=1{,}5\sqrt{3}$

404. Kitob javonida matematikadan 10 ta, chet tilidan 4 ta, ona tilidan 6 ta kitob turibdi. Javonda bitta kitobni necha usul bilan olish mumkin?
A) 20 B) 216 C) 14 D) 16

405. Do'konda 7 xil pidjak, 5 xil shim va 4 xil galstuk sotilmoqda. Pidjak, shim va galstukdan iborat uchlikni necha usul bilan sotib olsa bo'ladi?
A) 35 B) 20 C) 16 D) 140

406. Do'konda 5 xil convert va 4 xil marka sotilmoqda. Konvert bilan markani necha usulda sotib olishimiz mumkin.

A) 24 B) 20 C) 9 D) 12

407. Sfera sirtining yuzi 27π ga teng. Bu sferaga ichki chizilgan eng katta hajmli silindrning balandligi qancha bo'ladi.

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

408. Sinfda 30 nafar o'quvchi bor. Navbatchilik qilish uchun 2 nafar o'quvchini necha usulda amalga oshirishimiz mumkin.

A) 435 B) 870 C) 60 D) 720

409. $y=-x^3$, $y=\frac{8}{3}\sqrt{x}$, $y=8$ funksiyalarning grafiklari bilan chegaralangan shaklning yuzini toping.

A) 12 B) 27 C) 30 D) 36

410. Qurilish tashkilotining bo'limida 15 nafar ishchi bor. 3 nafar ishchini necha usulda tanlab olishimiz mumkin.

A)2730 B) 455 C) 45 D) 120

411. 30 ta turli munchoqlardan iborat taqinchoqni 8 ta munchoqli qismlarga nechta usulda ajratsa bo'ladi.

A) 30·29·28·27 B) 240 C) 5853925 D) 5852925

412. Idishda 12 ta oq , 24 ta ko'k rangli sharlar bor. Tasodifiy ravishda olingan sharning oq rangda ekanligining ehtimolligini toping.

A) 1,(3) B) 3 C) 2/3 D) 2/6

413. ΔABC da BC tomondan olingan K nuqta uni B uchidan boshlab hisoblaganda 1:3 kabi nisbatda bo'ladi, L nuqta esa AC tomonni A uchidan boshlab hisoblaganda 2:5 kabi nisbatda bo'ladi. AK va BL to'g'ri chiziqlarning kesishish nuqtasi O tegishli uchlardan boshlab hisoblaganda AK va BL kesmalarni qanday nisbatda bo'ladi.

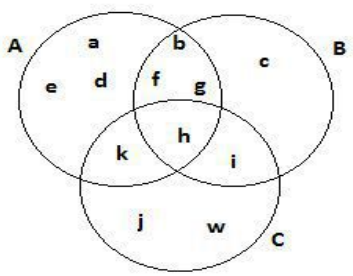
A) $\frac{BO}{OL}=\frac{1}{2}$; $\frac{AO}{OK}=\frac{3}{2}$ B) $\frac{BO}{OL}=\frac{11}{9}$; $\frac{AO}{OK}=\frac{5}{3}$

C) $\frac{BO}{OL}=\frac{7}{6}$; $\frac{AO}{OK}=\frac{8}{5}$ D) $\frac{BO}{OL}=\frac{8}{5}$; $\frac{AO}{OK}=\frac{7}{6}$

414. 100 ta mahsulotdan 30 tasi yaroqsiz. Sotib olingan mahsulotning yaroqsiz ekanligi ehtimolligini toping.

A) 7/10 B) 0,3 C) 3/13 D) 3/7

415. Rasmda A , B va C to'plamlar tasvirlangan. Agar n soni A∪B to'plamning, m esa B∩C to'plamning elementlari soni bo'lsa, n-2m ning qiymatini toping.



A) 7 B) 6 C) 8 D) 5

416. Maktabda 800 ta bola o'qiydi. Shulardan 80 tasi alochi. Tasodifiy ravishda bir o'quvchi tanlandi. Uning a'lochi ekanligining ehtimolligini toping.

A) 0,1 B) 0,9 C) 1,1 D) 1/11

417. Gulzorda 20 qizil , 30 ta binafsha rang va 40 ta oq rangli gul ochilgan. Agar bitta gul uzilgan bo'lsa, uning qizil yoki binafsha rangli bo'lish ehtimolligini toping.

A) 1/9 B) 1/3 C) 2/9 D) 5/9

418. OABC parallelogrammda O(0;0) va A(3;6) va B(8;6) uchlar berilgan. AC dioganalning tenglamasini tuzing.

A) y=x+3 B)y=-2x+12 C) y=-3x+15 D) y=2x

419. y=0,2x-0,4 , y=x+2 , y=8-x to'gri chiziqlar tomonidan hosil qilingan uchburchakka tashqi chizilgan aylananing radiusini toping.

A) $2\sqrt{5}$ B) 5 C) 12,5 D) $\sqrt{26}$

420. ΔABC ning uchlari A(1;1;1) , B(3;0;1) , C(0;3;1) berilgan bo'lsa, uning BAC burchagi bissektrisasi bo'yicha yo'nalgan vektorga kollinear birlik vektorni toping.

A) $\vec{e}(0;\frac{1}{\sqrt{2}};\frac{1}{\sqrt{2}})$ B) $\vec{e}(\frac{1}{\sqrt{2}};\frac{1}{\sqrt{2}};0)$ C)$\vec{e}(0;0;1)$

D) $\vec{e}(\frac{1}{\sqrt{2}};0;\frac{1}{\sqrt{2}})$

421. $A=i+i^2+i^3+\cdots+i^{15}$ yig'indini toping.

A) -1 B) 1 C) 0 D)$1+i$

422. To'rt xil bolt va uch xil gaykadan bittadan olib necha xil juftliklar tuzish mumkin.

A) 6 B) 12 C) 24 D) 120

423. $(1+i\sqrt{3})^7+(1-i\sqrt{3})^7$ ni hisoblang.

A) 128 B) $32-i$ C) 64 D) $i-1$

424. $A_x^2\cdot C_x^{x-1}=48$ tenglamani yeching.

A) x=8 B) x=3 C) x=4 D) x=6

425. "DAFTAR" so'zidan undosh va unli harflardan necha xil usul bilan tanlab olish mumkin.

A) 12 B) 24 C) 8 D) 16

426. Uchburchakli kesik piramidaning balandligi 10 m ga, bir asosining tomonlari 27 , 29 va 52 m ga, ikkinchi asosining perimetri esa 72 m ga teng. Kesik piramidaning hajmini toping.

A)788 B) 500 C) 1150 D) 1900

427. $x^2+2(p+1)x+9p-5$ p ning qanday qiymatlarida kvadrat uchhadning ikkala ildizi manfiy bo'ladi.

A) $(-1;\infty)$ B) $\left(\frac{5}{9};1\right]\cup[6;\infty)$ C) $\left(\frac{5}{9};1\right]$ D) $[6;\infty)$

428. 2 ta kitob , 3 ta daftar va 4 ta qalam bor. Ulardan bittadan olinib komplektlar tuzulmoqchi. Bu ishni necha xil usul bilan qilish mumkin.

A) 12 B) 120 C) 720 D) 24

429. 32 har xil harf va 10 ta turli raqamdan tarkibida oldin uch harf , ulardan keyin ikki raqam bo'ladigan nomerlardan qancha tuzish mumkin.

A) 3628000 B) 214300 C) 7689000 D) 3276800

430. n ning qanday qimatlarida $(n-2)x^2-2nx+n+3=0$ tenglamaning ikkala ildizi musbat bo'ladi.

A) $(-3;\infty)$ B) $(-\infty;-3)\cup(2;6]$ C) $(2;6]$ D) $[6;\infty)$

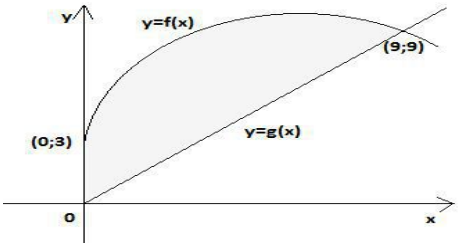
431. $C_x^1+6C_x^2+6C_x^3=9x^2-14x$ tenglamani yeching.

A) x=7 B) x=4 C) x=5 D) x=8

432. 30 o'quvchisi bo'lgan sinfdan boshliq , yordamchi va kotib necha xil usul bilan saylanishi mumkin.

A) 24360 B) 18770 C) 720 D) 12340

433. Rasmdan foydalanib bo'yalgan soha yuzini toping. Bu yerda $f(x)=a\sqrt{x}+b$, $g(x)=kx$



A) 18 B) 22,5 C) 24 D) 18,5

434. $6(1-sin^2 2x)-\pi=(3-2\pi)cos2x$ tenglama [0;2π] oralig'ida nechta ildizga ega.

A) 4 B) 5 C) 2 D) ildizga ega emas.

435. $C_{x+1}^{x-2}+2C_{x-1}^3=7(x-1)$ tenglamani yeching.

A) 6 B) 5 C) 3 D) 4

436. a,b,d,e,f harflardan qancha uch harfli (har qaysi so'zda albatta b harfi bo'lishi talab qilinsa) so'z tuzish mumkin.

A) 12 B)120 C) 24 D) 36

437. Agar $sin\alpha=\frac{\sqrt{21}}{2}$, $sin\beta=\frac{\sqrt{21}}{14}$ va α , β – o'tkir burchaklar bo'lsa, u holda $\alpha+\beta$ ni toping.

A) 30^0 B) 45^0 C) $22{,}5^0$ D) 60^0

438. $\left(2nx+\frac{1}{2nx^2}\right)^{3n}$ yoyilmaning binomial koeffitsiyentlari yig'indisi 64 ga teng. x ni o'z ichiga olmagan hadni aniqlang.

A) 32,6 B) 240 C) 320 D) 45,6

439. 1,2,3 va 4 raqamlaridan raqamlari takrorlanmagan nechta turli to'rt xonali juft son hosil qilish mumkin.

A) 18 B) 12 C) 32 D) 6

440. $\frac{A_x^4}{A_{x+1}^3-C_x^{x-4}}=\frac{24}{23}$ tenglamani yeching.

A) 7 B) 9 C) 8 D) 5

441. Agar uchburchakning bir burchagini o'z ichiga olgan tomonlari 1 va 3 ga, burchak bissektrisasi esa $0{,}75\sqrt{3}$ ga teng ekani ma'lum bo'lsa, shu burchakni toping.

A) 15^0 B) 60^0 C) 45^0 D) 30^0

442. Rus , ingliz, nemis , arab , xitoy, va o'zbek tillarining biridan ikkinchisiga tarjima qila oladigan nechta lug'at kitoblarni tuzish mumkin.

A) 30 B) 40 C) 24 D) 120

443. ABC uchburchakning A burchagi B burchagidan ikki marta katta, bu burchaklar qarshisida yotgan tomonlar esa , mos ravishda 12 va 8 sm ga teng. Uchburchakning uchinchi tomoni uzunligini toping.

A) 10 B) 12 C) 15 D) 9

444. Necha xil usulda oltiburchak uchlarini A,B,S,D,E va F harflar bilan belgilash mumkin?

A) 1440 B) 720 C) 120 D) 864

445. Tomonlari a=14 sm , b=15 sm , c=13 sm bo'lgan ABC uchburchakda balandliklarning kesishish nuqtasidan A uchgacha bo'lgan masofani toping.

A) 11,5 B) 12 C) 8,25 D) 8,5

446. Piramidaning to'rtala yo'gi muntazam uchburchaklar. Agar piramida to'la sirtining yuzi $81\sqrt{3}$ ga teng bo'lsa , uning 2 ta yo'g'i markazlari orasidagi masofani toping.

A) 3 B) 4 C) 5 D) 8

447. $A_x^{x-3}=xP_{x-2}$ tenglamani yeching.

A) 6 B) 5 C) 4 D) 7

448. A va B shaharlar orasidagi masofa 195 km ga teng. A dan B ga tomon va B dan A ga tomon 2 ta poyezd bir vaqtda yo'lga chiqadi va 3 soatdan keyin uchrashadi. Keyin ular yo'lda davom etadilar. A dan chiqqan poyezd B ga ikkinchi poyezd A ga yetib kelganiga qaraganda $\frac{13}{14}$ soat oldin yetib keldi. Poyezdlarning tezliklarini toping.

A) 12 va 23 B) 30 va 35 C) 20 va 27 D) 40 va 55

449. Universitet Ilmiy kengashi turli lavozimlarga 10 nomzoddan 3 tasini tanlanmoqda. Har bir nomzod bir xil imkoniyatga ega. 10 ta nomzoddan 3 kishidan iborat har xil tarkibli nechta guruh tuzish mumkin.

A) 720 B) 120 C) 240 D) 340

450. $\frac{((n+2)!+n!)(n+1)}{(n+2)!(n^2+3n+3)}$ kasrni qisqartiring.

A) $\frac{1}{n+2}$ B) n C) $\frac{n+2}{n}$ D) $\frac{1}{n+1}$