MATEMATIKA 2018. BAZA

1. Uchta sonning uchinchisi ikkinchisidan nechta ortiq bo'lsa,ikkinchisi birinchisidan shuncha ortiq, bu sonlardan ikkita kichigining ko'paytmasi 504 ekanligi ma'lum, shu uchta sondan birinchisini toping.
A)18 B) C) D) @matematikafly

2. Nolga teng bo'lmagan a,b,c haqiqiy sonlar uchun $\frac{a}{b+c}+\frac{b}{c+a}+\frac{c}{a+b}=-1$ berilgan bo'lsa, $\frac{\frac{a^2}{b+c}+\frac{b^2}{a+c}+\frac{c^2}{a+b}}{a+b+c}$ ni hisoblang.
Javob:-2

3. Teng yonli trapetsiyaning pastki asosi 30 sm ga, ustki asosi 18 sm ga teng.Bu trapetsiyaning diogonallari o'zaro perpendekulyar.Uning yuzini toping.
Javob:576

4. Bir burchagi 60^o bo'lgan to'g'ri burchakli uchburchakka tomoni 6 sm ga teng bo'lgan romb shunday ichki chizilganki, 60^o li burchak ular uchun umumiy, rombning barcha uchlari uchburchakning tomonlarida yotadi.Uchburchakning yuzini toping.
Javob:$\frac{81\sqrt{3}}{2}$ @matematikafly

5. $y=4x^2$ va $y=-4x^2-8$ parobolalarga absissalar o'qi bilan o'tkir burchak tashkil qiladigan umumiy urinma o'tkazilgan. Shu urinmaning tenglamasini toping.
Javob: y=8x-4

6. Ifodani soddalashtiring:
$$\frac{27-log_a^3 b^3}{(log_a b+lob_b a+1)\cdot log_a\frac{a}{b}}\cdot log_{b^9}a$$
Javob:3

7. $\sqrt{4^8+2\cdot 6^8+9^8}-\sqrt{4^7+6^8+9^8}$ ni hisoblang.
Javob:512

8. $\int_0^1 x^9\cdot(x^5+1)^{2n}\cdot(x^5-1)^{2n}dx=a$ bo'lsa, $\frac{1}{a}$ ni hisoblang.
Javob: 20n+10

9. Bir nuqtadan aylanaga ikkita urinma o'tkazilgan. Har bir urinmaning uzunligi 12 sm, urinish nuqtalari orasidagi masofa 14,4 sm. Tekislikning shu aylana bilan chegaralangan qismining yuzini toping.
Javob: 81π sm^2.

10. $f(x)=4+3tg^2 2x$ $bo'lsa, f'(\pi)=?$
Javob:0 @matematikafly

11. $sinx+\sin\left(x+\frac{2\pi}{3}\right)+\sin\left(x+\frac{4\pi}{3}\right)=?$
Javob:0

12. $\int_1^2\frac{3}{2x-1}dx=?$
Javob: $\frac{3}{2}ln3$.

13. $\begin{cases}(x+xy^2+y^2)(x+y^2)^2=225\\(x-xy^2+y^2)(x+y^2)^2=25\end{cases}$
x va y ni toping.
Javob: (1;2); (1; −2); (4; 1); (4; −1)

14. $x^3=\left(\frac{1}{3}\right)^x+1$ tenglamaning nechta yechimi bor?
Javob: 1.

15. $\int_0^{\frac{\pi}{2}}\sin\left(2x+\frac{\pi}{3}\right)dx$ integralni hisoblang.
Javob:0,5

16. a ning qanday eng kichik qiymatida $-x^2-10x+5<a$ tengsizlik x ning barcha qiymatlarida o'rinli bo'ladi?
Javob:31

17. Ushbu $\frac{5}{|x+2|+2}>|x+2|-2$ tengsizlikni qanoatlantiruvchi butun sonlar nechta?
Javob:4

18. Hisoblang: $sin\left(\frac{1}{2}arcsin\left(-\frac{2\sqrt{2}}{3}\right)\right)$
Javob: $-\frac{1}{\sqrt{3}}$

19. $y=x^5-5x^4-2$ funksiyaning (-1;1) oraliqdagi eng katta qiymatini toping.

Javob: -2 @matematikafly

20. Tenglamaning ildizlari ko'paytmasini toping.

$$\left(\sqrt{5+\sqrt{24}}\right)^{x}+\left(\sqrt{5-\sqrt{24}}\right)^{x}=10$$

Javob: -4

21. Hisoblang: $\frac{\left(\frac{1}{18}\right)^{5}\cdot 64\cdot\left(\frac{1}{27}\right)^{-4}+\left(\frac{1}{6}\right)^{-2}}{\left(\frac{2}{3}\right)^{-2}}$

Javob: 24 @matematikafly

22. Ifodani soddalashtiring:

$((cos\alpha-cos\beta)^2+(sin\alpha-sin\beta)^2):$

$$:\left(4sin^2\frac{\alpha-\beta}{2}\right)-3$$

Javob: -2

23. Tenglamaning ildizi 5 dan qancha kam?

$$\log_{x^2}13=\log_{4-3x}13$$

Javob:9

24. Tenglamaning ildizlari nisbatini toping:

$$x^2-11+\sqrt{x^2+11}=20$$

Javob: -1

25. Hisoblang: @matematikafly

$$sin\left(\frac{1}{2}arcsin\left(-\frac{2\sqrt{2}}{3}\right)\right)$$

Javob: $-\frac{1}{\sqrt{3}}$

26. Hisoblang: $1-((cos\alpha-cos\beta)^2+(sin\alpha-sin\beta)^2):\left(4sin^2\frac{\alpha-\beta}{2}\right)$

Javob: 0

27. To'g'ri berilgan integrallash formulalarini belgilang:

1) $\int \sin(kx+b)\,dx=-\frac{1}{k}\cdot\cos(kx+b)+C$
2) $\int \cos(b-kx)\,dx=-\frac{1}{b}\cdot\sin(b-kx)+C$
3) $\int \mathrm{tg}(kx+b)\,dx=-\frac{1}{k}\cdot\ln|cos(kx+b)|+C$

Javob: 1va 3

28. Tenglamani yeching.

$$2^{sin^2x}+2^{cos^2x}=3$$

Javob: $\frac{\pi k}{2}$

29. Nolga teng bo'lmagan a,b,c haqiqiy sonlar uchun $\frac{a}{b+c}+\frac{b}{c+a}+\frac{c}{a+b}=0$ berilgan bo'lsa, $\frac{\frac{a^2}{b+c}+\frac{b^2}{a+c}+\frac{c^2}{a+b}}{a+b+c}$ ni hisoblang.

Javob:-1

30. Hisoblang: $\sqrt[3]{\frac{12}{5}\sqrt{\frac{244}{15(38^2-23^2)}}}$

Javob: $\frac{2}{\sqrt[3]{25}}$ @matematikafly

31. Ildizlari $x_1=\frac{1}{10+6\sqrt{2}}$ va $x_2=\frac{1}{10-6\sqrt{2}}$ bo'lgan kvadrat tenglama tuzing

Javob: $28x^2-20x+1=0$

32. Ifodaning qiymatini toping:

$$(a^2-b^2-c^2+2bc):\left(\frac{a+b-c}{a+b+c}\right)$$

Bu yerda a=3, b=$\sqrt{3}$ va c=-1

Javob: 1

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

Javob:

34. Quyidagi tasdiqlarning qaysilari to'g'ri?

1) Trapetsiyaning o'rta chizig'i uning dioganallarini teng ikkiga bo'ladi
2) Agar teng yonli trapetsiyaning dioganali uning katta asosidagi burchagining bissektrissasi bo'lsa, u holda katta asos yon tomonga teng bo'ladi.
3) Agar teng yonli trapetsiyaning dioganali uning kichik asosidagi burchagining bissektrissasi bo'lsa, u holda katta asos yon tomonga teng bo'ladi.

Javob: 1va 3 @matematikafly

35. Uchburchakning katetlaridan biri 28 ga teng (16 lik sanoq sistemasida), ikkinchisi esa 2A ga (16 lik sanoq sistemasida) teng. Uchburchakning gipotenuzasini 16 lik sanoq sistemasida toping.

Javob: 3A

36. Aniq integralni hisoblang:

$$\int_0^2 (|x|+1)dx$$

Javob: 4

37. Aniq integralni hisoblang:

$$\int_0^{\frac{\pi}{2}} \left(\frac{cosx}{1+sin^2x}\right) dx$$

Javob: $\frac{\pi}{4}$ @matematikafly

38. Uchburchak uchlarining koordinatalari A(-4;2), B(6;5), C(1;-4). A uchidan tushirilgan balandligi orqali o'tuvchi to'g'ri chiziq tenglamasini tuzing.
Javob: 9y+5x+2=0

39. A{3;4;5;6;7;8;9;10;11} va B{5;6;7;8;9;11} to'plamlar berilgan bo'lsa, A va B to'plam kesishmasining qism to'plamlari sonini toping.
Javob: 64 @matematikafly

40. Bir nuqtadan aylanaga ikkita urinma o'tkazilgan. Har bir urinmaning uzunligi 15 sm, urinish nuqtalari orasidagi masofa 24 sm. Shu aylana uzunligini toping.
Javob: 40π

41. .Bir burchagi 60^o bo'lgan to'g'ri burchakli uchburchakka tomoni a sm ga teng bo'lgan romb shunday ichki chizilganki, 60^o li burchak ular uchun umumiy, rombning barcha uchlari uchburchakning tomonlarida yotadi. Uchburchakning perimetrini toping.
Javob: $\frac{3}{2}a(3+\sqrt{3})$

42. a ning qanday eng katta qiymatida $4x^2-4x+1>a$ tengsizlik x ning barcha qiymatlarida o'rinli bo'ladi?
Javob: a<0 @matematikafly

43. Tengsizlikni yeching:

$$\log_{(x-2)}(2x-7)>1$$

Javob: (5:+∞)

44. Aniq integralni hisoblang:

$$\int \frac{2dx}{xln2x}$$

Javob: 4ln(ln(2x))

45. Tenglamaning ildizlari yig'indisini toping:

$$\left(3^{x^2+5x+8}-81\right)\cdot \log_{10}(x^2+2x-4)=0$$

Javob: $-\sqrt{6}-5$

46. Tenglamani yeching:

$$(0.5)^{2x}-6\cdot(0.5)^x-16=0$$

Javob: -3

47. Agar $\overline{x457y}$ soni 55 ga qoldiqsiz bo'linsa, barcha x lar yig'indisini toping.
Javob: 7 @matematikafly

48. To'g'ri burchakli uchburchakning katta katetiga urinuvchi va qarshisidagi burchak uchidan o'tuvchi aylana berilgan. Agar katetlar 12 va 9 bo'lsa, aylana radiusini toping.
Javob:

49. Quyidagi 1223334444…. ketma ketlikda 2017 honaga qaysi raqam to'g'ri keladi?
Javob:

50. Teng yonli trapetsiyaning dioganali 4 ga teng asosi bilan 45° burchak tashkil etsa, trapetsiyaning yuzini toping.
Javob: 7

51. Alisher, Sardor, Behruz, Odina, Kamola-o'quvchilardan bitta o'g'il bola va bitta qiz bolani imtihonga kiritish lozim. Bu ishni necha usul bilan amalga oshirish mumkin?
Javob:

52. Funksiyaning aniqlanish sohasini toping.

$$y=\arcsin(|x-0.5|+|x|)$$

Javob:

53. Tenglamalar sistemasini yeching:

$$\begin{cases} a+y+ay=5 \\ a^2+y^2+ay=7 \end{cases}$$

Javob:

54. $f(x)=\frac{2e^x}{lnx-\sqrt{3}sinx}$ bo'lsa, F(e) ni hisoblang.
Javob:

55. Aniq integralni hisoblang. $\int_{-2}^{1}|x-2|dx$
Javob: @matematikafly

56. Tengsizlikning butun yechimlari sonini toping.

$$2^{\sqrt{x+1}}-6<2^{4-\sqrt{x+1}}$$

Javob:

57. Agar arifmetik progressiyada $a_1=2$, $9a_{11}=a_{19}$ bo'lsa, S_{19} ni toping.
Javob: @matematikafly

58. Teng yonli uchburchakning yon tomoni 10 ga teng, asosi 16 ga teng. Uchburchakka tashqi va ichki chizilgan aylanalar markazlari orasidagi masofani toping.
Javob: @matematikafly

59. Perimetri 40 bo'lgan parallelogram- da dioganallar o'tkazilgan va parallelogramm 4 ta uchburchakka bo'lindi, qo'shni uchburchaklar perimetrlari ayirmasi 10 ga teng bo'lsa, katta tomonni toping.
Javob: @matematikafly

60. Og'ma prizma asosi parallelogrammdan iborat. Tomonlari a=3, b=5, asosdagi burchak 45° ,yon qirrasi c=4. Yon qirra va asos yelisligi orasidagi burchak $\beta=30°$ bo'lsa, prizma hajmini hisoblang.
Javob:

61. Bozorda 5 xil ko'ylakni, 7 xil shimni va 4 xil tuflini necha hil usulda tanlash mumkin?
Javob:

62. Funksiyaning qiymatlar sohasini hisoblang:
$y=\frac{cosx(tgx+1)+sinx(ctgx+1)}{2}$
Javob: @matematikafly

63. Integralni hisoblang:

$$\int_{-\frac{3\pi}{2}}^{\frac{5\pi}{2}}cos3xdx$$

Javob:

64. Agar $f(x)=(a+b-6)x^3+2x^2+(b-3)x$ funksiya juft funksiya bo'lsa, $f(a)+f(b)$ ni hisoblang.
Javob:

65. Agar $f(x)=e^{x+lnx}$ bo'lsa, $f'(1)$ ni toping.
Javob:

66. a ning qanday qiymatlarida
$x^2+(1-2a)x+a^2-a-2=0$
Tenglama ildizlari (-3;3) oraliqqa tegishli bo'ladi?
Javob:

67. Tengsizlikni yeching:
$\sqrt{\frac{\sqrt{2}+\sqrt{3}-3}{x-5}}>\sqrt{3}-4$
Javob:

68. $y=\ln(x^2-2x-3)$ funksiyaning manfiy qiymatlar qabul qiladigan butun x lar sonini toping.
Javob @matematikafly

69. Hisoblang:

$$\left(27\cdot\left(10{,}6-\sqrt{3\sqrt[3]{9}}-9\frac{3}{5}\sqrt[3]{9\sqrt{3}}\right)\right)^{-\frac{18}{5}}$$

Javob:

70. Tengsizlikning butun yechimlari nechta?

$$\frac{x^2}{4}+\frac{9}{x^2}-2\left(\frac{x}{2}-\frac{3}{x}\right)-2{,}25\le 0$$

Javob:

71. Hisoblang:

$$\frac{1}{cos200°}+4sin50°$$

Javob:

72. Tengsizlikni qanoatlantiruvchi eng kichik va eng katta butun yechimlari ayirmasining absolut qiymatini toping.
$\sqrt{8+2^{\sqrt{3-x}+1}-4^{\sqrt{3-x}}}+2^{\sqrt{3-x}+1}>5$
Javob:

73. Radiusi 3 ga teng bo'lgan aylanaga ikkita AB va AC urinmalar o'tkazilgan bo'lib,

bunda A nuqta aylana markazidan 4 ga teng masofada joylashgan. Berilgan aylanaga, AB va AC urinmalarga urinuvchi aylana(hosil bo'lgan yangi aylananing radiusi berilgan aylananing radiusidan katta)ning radiusini toping.
Javob: @matematikafly

74. Uchburchakli piramidaning yon qirralari bir xil uzunlikka ega, bu uzunlik 6 ga teng. Bu piramidaning uchidagi tekis burchaklardan ikkinchisi 45°, uchinchisi 60° ga teng bo'lsa, piramidaning hajmini hisoblang.
Javob:

75. ABC uchburchakning tomonlari uzunliklari AB=5 va BC=4 va AC=4 bo'lsa, $\overrightarrow{CA} \cdot \overrightarrow{CB}$ skalyar ko'paytmani hisoblang.
Javob:

76. Funksiyaning qiymatlar sohasini hisoblang.
$f(x) = \left(\frac{1}{3}\right)^{x^2-6x+11}$

77. Tenglamalar sistemasini yeching:
$$\begin{cases} 2^x \cdot 7^x = 28 \\ 2^x + 7^x = 11 \end{cases}$$
Javob:

78. a va b juft 6 ga bo'linmaydigan sonlar, a va b ni 6 ga bo'lganda qoldiq xar hil. a+b ni 6 ga bo'lgandagi qoldiqni toping.
Javob: @matematikafly

79. Agar $f(x) = \frac{e^x}{lnx} + sin7$ bo'lsa, $f'(e)$ ni toping.
Javob:

80. a ning qanday qiymatlarida $\int_3^a (3x-1)dx = 4$ tenglik o'rinli bo'ladi?
Javob:

81. Hisoblang: $\frac{(\sqrt{5}-\sqrt{11})(\sqrt{33}-\sqrt{15}+\sqrt{22}-\sqrt{10})}{\sqrt{75}-\sqrt{50}}$
Javob:

82. Ifodani soddalashtiring:
$cos^4\alpha + sin^2\alpha \cdot cos^2\alpha$
Javob:

83. Ifodani soddalashtiring:
$-4cos^2\alpha - 4sin^2\alpha + 5$
Javob:

84. $sinx = \frac{1}{2}$ bo'lsa, $6{,}4 + 2tg^2x$ ni hisoblang.
Javob:

85. Ifodani soddalashtiring:
$\sqrt[5]{b^5} + \sqrt[6]{b^6} - \sqrt[7]{b^7} - \sqrt[4]{b^4}$
Javob:

86. Tenglamani yeching:
$\frac{(5^x-25)(7^x-49)}{\sqrt{7-5x}} = 0$
Javob:

87. $A \cap B = \{b; c; d\}, A \cap c = \{a; b\}$ bo'lsa, $A \cap (B \cup C)$ to'plam elementlarini toping:
Javob:

88. $A \cap B = \{b; c; d\}, A \cap c = \{a; d\}$ bo'lsa, $A \cap (B \cup C)$ to'plam elementlarini toping:
Javob:
@matematikafly

89. Teng yonli uchburchak asosi 8 ga, yon tomoniga o'tkazilgan mediana 10 ga teng. Uchburchakning yon tomonini toping.
Javob:

90. Teng yonli uchburchakning yon tomoni 20 ga, asosidagi burchak kosinusi 0,6 ga teng bo'lsa, asosga tushirilgan balandlikni toping.
Javob:

91. Og'ma prizmaning asosi parallelogramdan iborat bo'lib, uning asosi tomonlari 5 va 4 ga, ular orasidagi burchak 45° ga teng. Yon qirrasi uzunligi 4 ga teng va asos tekisligi bilan 30° li burchak tashkil qiladi. Prizmaning hajmini toping.
Javob:

92. Tengsizlikni yeching:
$|3 - |x-2|| \le 1$
Javob:

93. Tengsizlikni yeching:

$\frac{1}{x-1}+\frac{3}{|x|+1}\geq\frac{1}{|x|-1}$
Javob:

94. Tenglamaning natural yechimlari sonini toping

$$\sqrt{x+\sqrt{4x+\sqrt{16x+\sqrt{\ldots+\sqrt{4^{10}\cdot x+3}}}}}=\sqrt{x}+1$$ Javob:

95. Agar $m=acosx+bsinx$ va $n=-\sqrt{a^2+b^2}$ bo'lsa, x ning istalgan qiymati uchun qanday tengsizlik o'rinli bo'ladi?
Javob:

96. Arifmetik progressiyaning oltinchi va o'ninchi hadlari yig'indisi 38 ga, to'qqizinchi va o'n birinchi hadlari yig'indisi esa 23 ga teng bo'lsa, arifmetik progressiyaning dastlabki o'n sakkizta hadi yig'indisini toping.
Javob:

97. $6^x-6^{-x}=6$ bo'lsa, $(6^x-6)\cdot 6^x$ ni hisoblang.
Javob:

98. $f(x)=7^x, g(x)=8^x\ va\ h(x)=9^x$ bo'lsa, $f(44), g(33), h(22)$ larni kamayish tartibida yozing.
Javob:
@matematikafly

99. Agar sinx+cosx=1,12 bo'lsa, x qaysi chorakda joylashishi mumkin?
Javob:

100. Agar $\vec{a}(-1;5;x)\ va\ \vec{a}(1;5;-7)$ vektorlar perpendikulyar bo'lsa, x ning qiymatini toping.
Javob:

101. Tengsizlikni yeching.

$$\left|\frac{6-3x}{1+3x}\right|>0$$

Javob:

@matematikafly

102. $7x^3-14x-9x^2+a+2=0$ tenglama 3 ta ildizga ega, ikkita ildizi qarama-qarshi bo'lsa, $a^2+3=?$
Javob:
@matematikafly

103. Teng yonli uchburchakning asosidagi burchagi 30^o ga, yuzi $4\sqrt{3}$ ga teng bo'lsa, uning uchidan tushirilgan balandligini toping.
Javob:
@matematikafly

104. To'g'ri burchakli trapetsiyaning diogonali kata yon tomoniga teng, balandligi 6, kata yon tomoni 12 ga teng bo'lsa, uning o'rta chizg'ini toping.
Javob:

105. $cos\pi x=1$ (1;6) oraliqdagi ildizlari yig'indisini toping.
Javob:

106. $ABDCA_1B_1C_1D_1$ to'g'ri burchakli parallelepiped berilgan. AB=8, BC=2, BB_1=6 bo'lsa, $ABCDB_1C_1$ ko'pyoqli figuraning to'la sirtiyuzini toping.
A)76 B)96
C)$76+4\sqrt{10}$ D)$76+9\sqrt{10}$
@matematikafly

107. Geometrik progressiyaninng birinchi va to'rtinchi hadlarining yig'indisi 27 ga, ikkinchi va uchinchi hadlari ko'paytmasi 72 ga teng bo'lsa uning dastlabki to'rtta hadi yig'indisini toping.
Javob:

108. $|x-3|<4$ tengsizlikning butun yechimlari yig'indisini toping.
Javob:

109. $|x|+|y-1|\leq 4$ soha yuzini toping?
Javob:

110. $(2x-1)^{10}\cdot(x+1)^2$ ko'phadning koefitsiyentlari yig'indisini toping.
Javob:

111. 10 kishi tennis musobaqasida oltin, kumush, bronza medallarini necha xil usulda olishi mumkin.
Javob:

112. Uchta sonning uchinchisi ikkinchisidan nechta ortiq bolsa, ikkinchisi birinchisidan shuncha ortiq, bu sonlardan ikkita kichigining kopaytmasi 378, ikkita kattasining kopaytmasi 504 ekanligi ma'lum, shu uchta sondan birinchisini toping
Javob:18
@matematikafly

113. Uchta sonning uchinchisi ikkinchisidan nechta ortiq bolsa, ikkinchisi birinchisidan shuncha ortiq, bu sonlardan ikkita kichigining kopaytmasi 108, ikkita kattasining kopaytmasi 180 ekanligi ma'lum, shu uchta sondan ikkinchisini toping.
Javob:

114. Teng yonli trapetsiyaning pastki asosi 30 *sm* ga, ustki asosi esa 18 *sm* ga teng. Bu trapetsiyaning diagonallari o'zaro perpendikulyar. Uning yuzini toping.
A) 529 B) 576 C) 900 D) 484

115. Teng yonli trapetsiyaning pastki asosi 36 *sm* ga, ustki asosi esa 50 *sm* ga teng. Bu trapetsiyaning diagonallari o'zaro perpendikulyar. Uning yuzini toping.
A) 1849

116. 5;9;13 … ketma-ketlikning nechta hadining yig'indisi 13705 bo'ladi?
Javob:

117. $f(x)=\begin{cases}2b^2x^2+2ax+2\,; & x\geq 2\\ x^2+2bx+1\,; & x<2\end{cases}$
$f'(1)=2;\quad f'(3)=4\quad bo'lsa,$
$(a+b)^3=?$
Javob:
@matematikafly

118. Bir burchagi 60° bo'lgan to'g'ri bur-chakli uchburchakka tomoni 6 sm ga teng bo'lgan romb shunday ichki chizilganki, 60° li burchak ular uchun umumiy, rombning barcha uchlari uchburchakning tomonlarida yotadi. Uchburchakning yuzini toping.
A) $\frac{27\sqrt{3}}{2}$ B) $\frac{81\sqrt{3}}{2}$
C) $\frac{81\sqrt{3}}{4}$ D) $\frac{81\sqrt{3}}{8}$

119. Bir burchagi 60° bo'lgan to'g'ri burchakli uchburchakka tomoni 6 sm ga teng bo'lgan romb shunday ichki chizilganki, 60° li burchak ular uchun umumiy, rombning barcha uchlari uchburchakning tomonlarida yotadi. Uchburchakning perimetrini toping.
Javob:

120. Ifodani soddalashtiring.
$$\frac{27-log_a^3 b^3}{(log_a b+log_b a+1)\cdot log_a\frac{a}{b}}\cdot log_{b^9}a$$
A) 3 B)9 C) 6 D) 4

121. $\sqrt{4^8+2\cdot 6^8+9^8}-\sqrt{4^7+6^8+9^8}$ ni hisoblang.
A)64 B) 512 C) 128 D) 256

122. $\sqrt{4^{19}+6^{20}+9^{20}}+\sqrt{4^{19}-6^8+9^8}$ ni hisoblang.
Javob:

123. $\sqrt{4^{12}+6^{13}+9^{13}}-\sqrt{4^{12}-6^{13}+9^{13}}$ ni hisoblang.
Javob:

124. Bir nuqtadan aylanaga ikkita urinma o'tkazilgan. Har bir urinmaning uzun- ligi 20 *sm*, urinish nuqtalari orasidagi masofa 24 *sm*. Aylana uzunligini toping.
A) 15

125. Bir nuqtadan aylanaga ikkita urinma o'tkazilgan. Har bir urinmaning uzunligi 15 *sm*, urinish nuqtalari orasidagi masofa 14,4

sm. Tekislikning shu aylana bilan chegaralangan qismi yuzini toping.
Javob:

126. Agar $f(x) = 6 + 5tg^2 2x$ bo'lsa, $f'(\pi)$ ni hisoblang.
A) 0 B) 2 C) 5 D) 1

127. Agar $f(x) = 4 + 3tg^2 2x$ bo'lsa, $f'(\pi)$ ni hisoblang.

128. Agar $f(x) = 5 - tg^2 2x$ bo'lsa, $f'(\pi)$ ni hisoblang.

129. Agar $f(x) = 5tg^2 2x$ bo'lsa, $f'(\pi)$ ni hisoblang.
A) 20 B) 1 C) 0 D) -1

130. Agar $f(x) = \frac{e^x}{lnx} + sin3$ $bo'lsa$, $f'(e) = ?$
A) e B) $\frac{e^{e-1}(e-1)}{e}$
C) $e^{e-1}(e-1)$ D) e^e

131. $\int_1^2 \frac{3}{2x-1}dx$ ni hisoblang.
A) $\frac{3}{2}ln3$ B) ln3 C) ln9 D)2

132. $\int_{-2}^{1}|x-2|dx$ ni hisoblang.
Javob:

133. $\int_0^2(|x|+1)dx$ ni hisoblang.
$Javob$:

134. a ning qanday qiymatlarida $\int_3^a(3x-1)dx = 4$ tenglik o'rinli bo'ladi?
A) ± 3 B) ± 5
C) $\frac{1\pm 2\sqrt{22}}{3}$ D) $\frac{2\pm\sqrt{22}}{3}$

135. Hisoblang.
$$\sqrt[3]{\frac{12}{5}\cdot\sqrt{\frac{244}{15\cdot(38^2-23^2)}}}$$
Javob:

136. Hisoblang.
$$\frac{(\sqrt{5}-\sqrt{11})\cdot(\sqrt{33}-\sqrt{15}+\sqrt{22}-\sqrt{10})}{\sqrt{75}-\sqrt{50}}$$
A) 2.4 B) -2,4 C) 1.2 D) -1,2

137. Hisoblang.
$$\frac{(\sqrt{5}+\sqrt{11})\cdot(\sqrt{33}-\sqrt{15}+\sqrt{22}-\sqrt{10})}{\sqrt{75}+\sqrt{50}}$$
A) 2.4 B) -2,4 C) 1.2 D) -1,2

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

139. $\int_0^{\frac{\pi}{2}}\frac{cosxdx}{1+sin^2x}$ integralni hisoblang.
Javob:

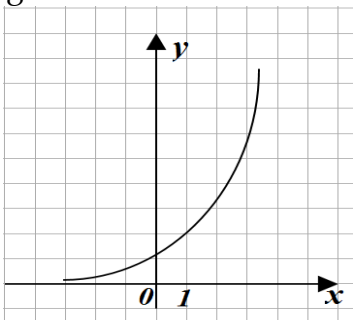
140. $\int_0^{\frac{\pi}{2}}cos3xdx$ integralni hisoblang.
A) 0.6 B) -0,(3) C) -0,(6) D) 0,3

141. a ning qanday eng kichik butun qiymatida $-x^2-10x+5<a$ tengsizlik x ning barcha qiymatlarida o'rinli bo'ladi?
A) 31 B) 32 C) 30 D) 29

142. a ning qanday eng kichik butun qiymatida $4x^2-4x+1>a$ tengsizlik x ning barcha qiymatlarida o'rinli bo'ladi?
Javob:

143. Ushbu $\frac{5}{|x+2|+2} > |x+2|-2$ tengsizlikni qonoatlantiruvchi butun sonlar nechta?
A) 4 ta B) 5 ta C) 6 ta D) 7 ta

144. Grafik ko'rinishda berilgan funksiyani toping.



A) $y = log_2 x$ B) $y = 2^x$
C) $y = \left(\frac{1}{2}\right)^x$ D) $y = e^x$

145. Ifodaning qiymatini toping.

$$\frac{\left(\frac{1}{18}\right)^{5}\cdot 64\cdot\left(\frac{1}{27}\right)^{-4}+\left(\frac{1}{6}\right)^{-2}}{\left(\frac{2}{3}\right)^{-2}}$$

A)18 B) 12 C)24 D) 48

146. Ifodani soddalashtiring.
$cos^4x + sin^2x \cdot cos^2x$
Javob:

147. Ifodani soddalashtiring.
$7sin^2x - 1 + 7cos^2x$
Javob:

148. Ifodani soddalashtiring.
$7sin^2x - 5 + 7cos^2x$
Javob:

149. Ifodani soddalashtiring.
$-4sin^2x - 1 - 4cos^2x$
Javob:

150. Ifodani soddalashtiring.
$cosx + tgx \cdot sinx$
Javob:

151. $sinx = \frac{1}{2}$ $bo'lsa,$ $6{,}8 + 2cos^2x$ ni hisoblang.
Javob:

152. a=6 bo'lsa, ifodani soddalashtiring:

$$\frac{\left(25^{\frac{1}{2log_{49}25}+2log_2log_2a^{2log_4a}}\right)\cdot 4^{-\frac{2}{log_34}}-a^2}{1-a}$$

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

153. a=4 bo'lsa, ifodani soddalashtiring:

$$\left(25^{\frac{1}{2log_{49}25}+2log_2log_2a^{2log_4a}}\right)\cdot 4^{-\frac{2}{log_34}}-a^2$$

Javob:

154. Ifodani soddalashtiring:
$\sqrt[5]{b^5} - \sqrt[4]{a^4} + \sqrt[6]{b^6} - \sqrt[9]{b^9}$
$bu\ yerda\ b < 0.$
A) 4b B) 0; 4b C) 0; -4b D) 0

155. $x^3 = \left(\frac{1}{3}\right)^x + 1$ tenglamaning nechta yechimi bor?
A) 0 B) 1 C) 7 D) 4

156. Ushbu $log_{x^2}13 = log_{4-3x}13$ tenglamani ildizi 5 dan qancha kam?

A) 9 B) 5 C) 10 D) 12
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157. $\frac{(5^x-25)\cdot(7^x-7)}{\sqrt{7-5x}} = 0$ tenglamaning ildizi 5 dan qancha kam?
A) 4 B) 10 C) 6 D) 8

158. $\frac{(5^x-25)\cdot(7^x-49)}{\sqrt{7+5x}} = 0$ tenglamaning ildizi 5 dan qancha kam?
Javob:

159. Quyidagi tasdiqlardan qaysilari to'g'ri?
1) Trapetsiyaning o'rta chizig'i uning diagonallarini teng ikkiga bo'ladi;
2) Agar teng yonli trapetsiyaning diagonali uning katta asosidagi burchagi bissektrisasi bo'lsa, u holda katta asos yon tomonga teng bo'ladi;
3) Agar teng yonli trapetsiyaning diagonali uning kichik asosidagi burchagi bissektrisasi bo'lsa, u holda katta asos yon tomonga teng bo'ladi.

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

160. Uchburchak katetlaridan biri 28 ga teng (16 lik sanoq sistemasi), ikkinchisi esa 2A ga (16 lik sanoq sistemasi). Uchburchakning gipotenuzasini 16 lik sanoq sistemasida toping.
Javob:

161. Uchburchak uchlarining koordinatalari $(-4;2);(6;5);C(1;-4)$. A uchidan tushirilgan balandligi orqali o'tuvchi to'g'ri chiziq tenglamasini tuzing.
Javob:
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162. A={3;4;5;6;7;8;9;10;11} va B={5;6;7;8;9;11} to'plamlar berilgan bo'lsa, A va B to'plamlar kesishmasining qism to'plamlari sonini toping.
A) 64 B) 32 C) 128 D) 8

163. $A\cap B=\{b;c;d\}$, $A\cap C=\{a;b\}$ bo'lsa, $A\cap(B\cup C)$ to'plam elementlarini toping.
A) {a;b} B) $\{a;b;c;d\}$
C) $\{a;b;c\}$ D) $\{b\}$
$A\cap B=\{b;c;d\}$, $A\cap C=\{a;d\}$ bo'lsa, $A\cap(B\cup C)$ to'plam elementlarini toping.
Javob:

164. $A\cap B=\{b;c;d\}$, $A\cap C=\{a;d\}$ bo'lsa, $A\cap(B\cup C)$ to'plam elementlarini toping.
Javob:

165. $2^{cosx}+2^{sinx}=3$ tenglamani yeching.
Javob:

166. $2^{cos^2x}+2^{sin^2x}=3$ tenglamani yeching.
Javob:

167. $A\cap B=\{b;c;d\}$, $A\cap C=\{a;b\}$ bo'lsa, $A\cap(B\cup C)$ to'plam elementlarini nechta?
A)2 B) 4 C)3 D) 1

168. Teng yonli uchburchakning asosi 16 sm ga, yon tomoni esa 10 sm ga teng. Bu uchburchakka ichki va tashqi chizilgan aylanalar markazlari orasidagi masofani toping.
Javob:

169. Teng yonli uchburchakning asosi 8 sm ga, yon tomoniga tushirilgan mediana 10 sm ga teng. Yon tomonini (sm) toping.
A) $2\sqrt{17}$ B) $4\sqrt{7}$
C) $4\sqrt{17}$ D) $6\sqrt{17}$

170. Teng yonli uchburchakning yon tomoni 20 ga, asosidagi burchak kosinusi $\frac{2\sqrt{6}}{5}$ ga teng bo'lsa, asosiga tushirilgan balandligini toping.
Javob:
@matematikafly

171. Og'ma prizmaning asosi parallelogramlardan iborat bo'lib, uning asosi tomonlari 5 va 4 ga va ular orasidagi burchak 45° ga teng. Yon qirrasi uzunligi 4 ga va asos tekisligi bilan 30° li burchak tashkil qiladi. Prizmaning hajmini toping.
Javob:

172. Og'ma prizmaning asosi parallelogramlardan iborat bo'lib, uning asosi tomonlari 3 va 4 ga va ular orasidagi burchak 60° ga teng. Yon qirrasi uzunligi 4 ga va asos tekisligi bilan 30° li burchak tashkil qiladi. Prizmaning hajmini toping.
Javob:

173. Tenglamaning ildizlari yig'indisini toping:

$$4+\cfrac{x}{3+\cfrac{x}{2+\cfrac{x}{4+\ddots}}}=5$$

A)5 B)$\frac{15}{4}$ C)-2 D)$-\frac{2}{3}$

174. Agar $m=acosx+bsinx$ va $n=-\sqrt{a^2+b^2}$ bo'lsa, x ning istalgan qiymati uchun quyidagilardan qaysi biri o'rinli?
A) $m>n$ B) $m<n$
C) $m\geq n$ D) $m\leq n$

175. $\sqrt{x^2-x-2}\geq 2x+3$ tengsizlikni qanoatlantiruvchi eng katta natural sonni toping.
Javob:

176. $x\sqrt{x}-9\sqrt{x}=8$ bo'lsa, $x-\sqrt{x}$ ning qiymatini toping.
A)8 B)6 C)3 D)4

177. Arifmetik progressiyaning oltinchi va o'ninchi hadlari yi'g'indisi 38 ga, to'qqizinchi va o'n birinchi hadlari yig'indisi esa 23 ga teng bo'lsa, arifmetik progressiyaning dastlabki o'n bechta hadlari yig'indisini toping. A) 285

178. Ildizlari $x_1=\frac{1}{10+6\sqrt{2}}$ va $x_2=\frac{1}{10-6\sqrt{2}}$ bo'lgan kvadrat tenglama tuzing.
A) $28x^2-20x+1=0$
B) $28x^2-20x-1=0$
C) $28x^2+20x+1=0$
D) $-28x^2-20x+1=0$

179. $[\pi^2]+[2{,}9]^2+[15,(99)]$ ni hisoblang. [a] – a ning butun qismi.

Javob:

180. $\frac{4}{1+\frac{3}{x-1}}$ kasr ma'noga ega bo'lmaydigan barcha x larning yig'indisini toping
A)0 B)1 C)-1 D)-2

181. $y = x^2 - 4x + 7$ funksiya grafigining (-1;1) nuqtaga nisbatan simmetrik bo'lgan tenglamasini tuzing.
Javob:

182. $y = |3x + 2| + |2x - 3|$ funksiyaning eng kichik qiymatini toping,
Javob:

183. Agar $f(2x+1)=4x+5$ bo'lsa, $f(x)$ nimaga teng?
Javob:

184. $y = x^2$ funksiya grafigini o'ngga ikki birlik, yuqoriga uch birlik siljitish (parallel ko'chirish) natijasida hosil bo'lgan parabola tenglamasini toping:
A)$y = x^2 - 4x + 7$
B) $y = x^2 - 4x + 3$
C) $y = x^2 - 3x + 4$
D) $y = x^2 - 2x + 3$

185. $y = 4x - x^2$ va $y = x^2 - 6x + k$ funksiyalarga o'tkazilgan umumiy urinma M(1;3) nuqtadan o'tsa, k ning qiymatini toping.
Javob:

186. Funksiyaning monoton o'sish oralig'ini toping.
$y = |x - 4| - x^2$
Javob:

187. $f(x + y, x - y) = 4x^2 + 8xy$ funksiya berilgan. $f(2x, 3x)$ni toping.
A)$3x^2 + 48$ B)$5x^2 + 40$ C) $15x^2$
D) 12x+36

188. $\begin{cases} x + y = a - 1 \\ xy = a^2 - 7a + 14 \end{cases}$ sistemada $x^2 + y^2$ minimum qiymat qabul qilsa, a ning qiymatini toping.

Javob:

189. $sinx = \frac{1}{x}$ tenglama $[-4\pi; 4\pi]$ kesmada nechta yechimga ega?
Javob:

190. Tengsizlikni yeching:$|x - 2| \leq 4$
Javob:

191. $(x - 3a)(x - a - 3) < 0$ bo'lib, $1 \leq x \leq 3$ oraliqda bajarilsa, a ning nechta butun qiymati mavjud?
Javob:

192. $\frac{a+3b}{a+b-1} + \frac{a+b-1}{a+b-3} = 4$ bo'lsa, a+b ni toping
A)$\frac{14}{5}$ B)$\frac{12}{5}$ C)$\frac{11}{5}$ D)TJY

193. Tengsizlikni yeching:
$$\left|3 - |x - 2|\right| \leq 1$$
Javob:

194. Tengsizlikni yeching:
$$\frac{1}{x-1} + \frac{1}{|x|+1} \geq \frac{1}{|x|-1}$$
Javob:

195. Tengsizlikni yeching:
$$log^2_{0.2}(x + 1) < 4$$
Javob:

196. Tengsizlikni yeching:
$$log^2_{0.2}(x + 1) > 4$$
Javob:

197. Tengsizlikni yeching:
$$log_{x-2}(2x - 7) > 1$$
Javob:

198. Agar $f(x) = (a + b - 4) \cdot x^3 + +2x^2 + (b - 1)x$ juft funksiya berilgan bo'lsa, $f(a + 2b)$ ning qiymatini toping
A)18 B)36 C)50 D)0

199. Ahmad bir kun, Arslon ikki kun ishlaganda, birishning 3/8 qismini bajarishadi. Agar Ahmad 3 kun, Arslon 2 kun ishlasa, aynan o'sha ishning 5/8 qismini bajarishadi. Arslon bir o'zi ushbu ishni necha kunda tamomlaydi?

A)10 B)8 C)4 D)9

200. Tengsizlikni yeching:

$$\frac{3x^2-6x+13}{log_{0,2}(x^2+4)}<0$$

Javob:

201. Tengsizlikni yeching:

$$2^{log_{0,2}x\cdot 2log_{0,2}5x}\geq 1$$

Javob:

202. Tengsizlikni yeching:

$$2^{log_{0,2}x\cdot 2log_{0,2}5x}\leq 1$$

Javob:

203. Tengsizlikni yeching:

$$2^{log_{0,8}x\cdot 2log_{0,8}1,25x}\geq 1$$

Javob:

204. Tengsizlikni yeching:

$$2^{log_{0,8}x\cdot 2log_{0,8}1,25x}\leq 1$$

Javob:

205. $2^{\sqrt{x+1}}\geq 2^{4-\sqrt{x+1}}$ tengsizlikni nechta butun son qanoatlantirmaydi?
Javob:

206. $2^{\sqrt{x+1}}< 2^{4-\sqrt{x+1}}$ tengsizlikni yeching.
Javob:

207. Funksiyaning aniqlanish soxasini toping:

$y=\sqrt{\frac{|x+2|-3}{x^2+2}}$

Javob:

208. Funksiyaning aniqlanish soxasini toping:

$$y=\sqrt{\frac{|x+2|-3}{x^2-2}}$$

Javob:

209. Funksiyaning aniqlanish soxasini toping:

$$y=\sqrt{\frac{|x-2|-3}{x^2+2}}$$

Javob:

210. $(log_2(x+2)-3)(log_2(x+2)+4)>0$ tengsizlikni yeching.
Javob:

211. $(log_2(x+2)-3)(log_2(x+2)+4)<0$ tengsizlikni yeching.
Javob:

212. $(log_2(x-2)-3)(log_2(x-2)+4)>0$ tengsizlikni yeching.
Javob:

213. $(log_2(x+2)+3)(log_2(x+2)-4)>0$ tengsizlikni yeching.
Javob:

214. $2^x=x+2$ tenglama nechta yechimga ega?
Javob:

215. $2^x=x-2$ tenglama nechta yechimga ega?
Javob:

216. $2^{x-1}=x+2$ tenglama nechta yechimga ega?
Javob:

217. $2^{x+1}=x-2$ tenglama nechta yechimga ega?
Javob:

218. $f(x)=6^x$ *bo'lsa,* $\left(f(-2)\cdot f\left(\frac{1}{2}\right)\right)^2$ ning qiymatini toping.
Javob:

219. $f(x)=6^x$ *bo'lsa,* $\left(f(2)\cdot f\left(-\frac{1}{2}\right)\right)^2$ ning qiymatini toping.
Javob:

220. $f(x)=6^x$ *bo'lsa,* $\left(f(-2)\cdot f\left(\frac{1}{2}\right)\right)^3$ ning qiymatini toping.
Javob:

221. $f(x)=7^x$ *bo'lsa,* $\left(f(-2)\cdot f\left(\frac{1}{2}\right)\right)^2$ ning qiymatini toping.
Javob:

222. $\overline{ab}$ *va* $\overline{ba}$ ikki honali sonlar va $\sqrt[1999]{\frac{\overline{ab}-\overline{ba}}{\overline{ba}-\overline{ab}}}=x$ bo'lsa, $(x^x)^x$ ni hisoblang.(i –kompleks son)
A) i B)i^2 C)i^3
D)aniqlab bo'lmaydi

223. $f(x)=10^x$ $bo'lsa, 5f(-3)+8f(-2)$ ni hisoblang.
Javob:

224. $f(x)=10^x$ $bo'lsa, 5f(-1)-8f(-2)$ ni hisoblang.
Javob:

225. $f(x)=10^x$ $bo'lsa, 5f(3)+8f(2)$ ni hisoblang.
Javob:

226. $f(x)=\frac{3^{x+1}+3^{x+3}+3^{x+2}}{5^{x+2}+14\cdot 5^x}$ berilgan bo'lsa, $9f(-2)$ ni hisoblang.
Javob:

227. $f(x)=\frac{3^{x+1}+3^{x+3}+3^{x+2}}{5^{x+2}+14\cdot 5^x}$ berilgan bo'lsa, $9f(2)$ ni hisoblang.
Javob:

228. $f(x)=\frac{3^{x+1}+3^{x+3}+3^{x+2}}{5^{x+2}+14\cdot 5^x}$ berilgan bo'lsa, $9f(-8)$ ni hisoblang.
Javob:

229. $6^x-6^{-x}=6$ bo'lsa, $(6^x-6)\cdot 6^x$ nimaga teng?
Javob:

230. $6^x-6^{-x}=6$ bo'lsa, $(6^x+6)\cdot 6^x$ nimaga teng?
Javob:

231. $\frac{2^a+4\cdot 2^b}{2^a-2\cdot 2^b}=-7$ bo'lsa, 2^{a-b} ning qiymatini toping.
Javob:1,25

232. $\frac{2^a+4\cdot 2^b}{2^a-2\cdot 2^b}=7$ bo'lsa, 2^{a-b} ning qiymatini toping.
Javob:
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233. $\frac{2^a+4\cdot 2^b}{2^a-2\cdot 2^b}=5$ bo'lsa, 2^{a-b-1} ning qiymatini toping.
Javob:

234. x, y natural sonlari $\frac{1}{x+y-14}-\frac{1}{x-y-6}=1$ shartni qanoatlantirsa, x-y ni toping.
A)0 B)2 C)3 D)4

235. $f(x)=\frac{7\cdot 2^x+5\cdot 2^{-2x}}{2}$ va $g(x)=\frac{7\cdot 2^x-5\cdot 2^{-2x}}{2}$ tenglikdan foydalanib, $f^2(x)-g^2(x)$ ayirmani toping.
Javob:

236. $f(x)=7^x, g(x)=8^x, h(x)=9^x$ bo'lsa, $f(44), g(33), h(22)$ larni kamayish tartibda yozing.
Javob:

237. $f(x)=7^x, g(x)=8^x, h(x)=9^x$ bo'lsa, $f(44), g(33), h(22)$ larni o'sish tartibda yozing.
Javob:
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238. $f(x)=7^x, g(x)=8^x, h(x)=9^x$ bo'lsa, $f(40), g(30), h(20)$ larni kamayish tartibda yozing.
Javob:

239. $f(x)=7^x, g(x)=8^x, h(x)=9^x$ bo'lsa, $f(40), g(30), h(20)$ larni o'sish tartibda yozing.
Javob:
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240. $f(x)=\left(2^{\frac{3x}{2}}-3^{\frac{3x}{2}}\right)+\frac{2\cdot\left(2^x+3^x+6^{\frac{x}{2}}\right)}{\left(2^{\frac{x}{4}}-3^{\frac{x}{4}}\right)^2+\left(2^{\frac{x}{4}}+3^{\frac{x}{4}}\right)^2}$ bo'lsa, $f(2)$ ni toping.
Javob:

241. $f(x)=\left(2^{\frac{3x}{2}}-3^{\frac{3x}{2}}\right)+\frac{2\cdot\left(2^x+3^x+6^{\frac{x}{2}}\right)}{\left(2^{\frac{x}{4}}-3^{\frac{x}{4}}\right)^2+\left(2^{\frac{x}{4}}+3^{\frac{x}{4}}\right)^2}$ bo'lsa, $f(-2)$ ni toping.
Javob:

242. $f(x)=\left(2^{\frac{3x}{2}}-3^{\frac{3x}{2}}\right)+\frac{2\cdot\left(2^x+3^x+6^{\frac{x}{2}}\right)}{\left(2^{\frac{x}{4}}-3^{\frac{x}{4}}\right)^2+\left(2^{\frac{x}{4}}+3^{\frac{x}{4}}\right)^2}$ bo'lsa, $f(3)+f(2)$ ni toping.
Javob:

243. Agar $5^x - 5^y = 3,\ x + y = 3$ bo'lsa, $5^{2x} + 5^{2y} + 25^x \cdot 5^y - 5^x \cdot 25^y$ ning qiymatini toping.
Javob:

244. Agar $5^x - 5^y = 7,\ x + y = 7$ bo'lsa, $5^{2x} + 5^{2y} + 25^x \cdot 5^y - 5^x \cdot 25^y$ ning qiymatini toping.
Javob:

245. Agar $5^x - 5^y = 3,\ x + y = 3$ bo'lsa, $5^{2x} - 5^{2y} + 25^x \cdot 5^y - 5^x \cdot 25^y$ ning qiymatini toping.
Javob:

246. $y = tg^2\left(\frac{x}{3} - \frac{\pi}{4}\right) + 2sinx$ funksiyaning eng kichik musbat davrini toping.
A)6π B) 2π C) 3π D)davriy emas

247. $y = 97tg^2\left(\frac{x}{3} + \frac{\pi}{4}\right) + 2sinx$ funksiyaning eng kichik musbat davrini toping.
A)6π B) 2π C) 3π D)davriy emas

248. $y = 97tg^2\left(\frac{x}{3} - \frac{\pi}{4}\right) + 2\sin(x + 2018)$ funksiyaning eng kichik musbat davrini toping.
A)6π B) 2π C) 3π D)davriy emas

249. $(5^{log_3 5})^{log_5 3}$ ni hisoblang.
Javob:

250. $\sqrt{log_{16}4 + log_{16}24 - log_{16}6}$ ni hisoblang.
Javob:

251. $\sqrt{log_{16}4 \cdot (log_{16}24 - log_{16}6)}$ ni hisoblang.
Javob:

252. Perimetri 40 sm bo'lgan parallelogramda diagonallar o'tkazilgan. Ikkita qo'shni uchburchaklar perimetrlari orasidagi ayirma 10 sm ga teng. Parallelogramning katta tomonining uzunligini toping.
A) 10 sm B) 20 sm
C) 5 sm D) 15 sm

253. Perimetri 32 sm bo'lgan parallelogramda diagonallar o'tkazilgan. Ikkita qo'shni uchburchaklar perimetrlari orasidagi ayirma 8 sm ga teng. Parallelogramning kichik tomonining uzunligini toping.
A) 4 sm B) 3 sm
C) 5 sm D) 12 sm

254. Perimetri 36 sm bo'lgan parallelogramda diagonallar o'tkazilgan. Ikkita qo'shni uchburchaklar perimetrlari orasidagi ayirma 10 sm ga teng. Parallelogramning tomonlari uzunliklarini toping.
Javob:

255. Tenglamalar sistemasini yeching:
$\begin{cases} 2^x \cdot 7^y = 28 \\ 2^x + 7^y = 11 \end{cases}$
A) (2;1); $(log_2 7; 2log_7 2)$
B) (2;1); $(log_2 7; 2log_2 7)$
C) (-2;1); $(log_2 7; 2log_7 2)$
D) (2;2); $(log_2 7; 2log_7 2)$

256. Tenglamalar sistemasini yeching:
$\begin{cases} 11^x + 8^y = 75 \\ 3 \cdot 11^x + 8^y = 97 \end{cases}$
Javob:

257. $\frac{x^7 - 4x^5 + 4x^2 - 7x - 2}{x^7 - 4x^5 + 3x^2 - 4x - 4} = 1$ tenglamaning barcha ildizlari yig'indisini toping.
A)2 B) -1 C) 3 D) 1

258. $\left|\frac{x}{1+4x}\right| > 0$ tengsizlikni yeching.

A)$(-\infty; -\frac{1}{4}) \cup (-\frac{1}{4}; 0) \cup (0; +\infty)$

B) $(-\infty; -\frac{1}{4}) \cup (-\frac{1}{4}; +\infty)$

C) $(-\infty; -\frac{1}{4}) \cup (0; +\infty)$

D)TJY

259. $y = \arcsin\left(|x| + \left|x - \frac{1}{2}\right|\right)$ funksiyaning qiymatlar sohasini toping.
Javob:

260. Toq sonning o'zidan keyin keluvchi 3 ta toq son bilan yig'indisi 49 dan katta, ushbu shartni qanoatlantiruvchi toq sonlardan eng kichigini toping.

A)15 B)9

C)11 D)13

261. $x^9 \cdot |x^2 + 4x + 4| < 0$tengsizlik

[-8;1] kesmada nechta butun yechimga ega?

A) 7 B)8

C) 5 D) 6

262. $y = (x+1)^{-\frac{4}{7}}$ funksiyaning aniqlanish sohasini toping.

A) $(-\infty; -1) \cup (-1; +\infty)$

B) $(-\infty; 1) \cup (1; +\infty)$

C) x=1 D) to'g'ri javob yo'q

E) (-1;1)

263. Hisoblang.

$$\frac{125\frac{1}{2} - 123\frac{13}{12}}{1 - \frac{1}{1-\frac{1}{2}}}$$

A) -2 B) -1 C) 1 D) 2 E) 4

264. $(a+1)x^2 - 3ax + 4a = 0$ tenglama a ning qanday qiymatida 2 ta haqiqiy ildizga ega?

A) $\emptyset$ B) $\left(-1\frac{9}{7}; -1\right) \cup (-1; 0)$

C) $\left(-1\frac{9}{7}; 0\right)$ D) $(-\infty; +\infty)$

265. $\int e^{\sqrt{x}} dx$ integralni hisoblang.

A) $2e^{\sqrt{x}} \cdot (\sqrt{x}+1) + C$

B) $e^{\sqrt{x}} \cdot (\sqrt{x}-1) + C$

C) $2e^{\sqrt{x}} \cdot (\sqrt{x}-1) + C$

D) $2 \cdot (\sqrt{x}-1) + C$

266. $(a+2b)^5$ ko'phadni 4-o'rinda turgan koefitsiyentini toping.

A)80 B)130 C)110 D)70

267. $sin6 + \sin\{2\pi\}$ ni hisoblang (bu yerda {a}- a ning kasr qismi).

A) 1 B)0 C)-1 D)0.5

268. Cheksiz kamayuvchi geometrik progressiyaning barcha hadlari yig'indisi $f(x) = x^3 + 3x - 9$ funksiyaning [-2;3] kesmadagi eng katta qiymatiga, va $b_1 - b_2 = f'(0)$ ga teng bo'lsa, cheksiz kamayuvchi geometrik progressiyaning maxrajini toping.

A) -8 B)-6

C) 2 D) $\frac{2}{3}$

269. Musbat sonlardan tashkil topgan $a_1, a_2, \ldots$ ketma-ketligi uchun $a_1 = a_2 = 1$ va barcha natural n da $a_{n+2} = a_n \cdot a_{n+1}$ shart bajarilsin, ketma-ketlikning 100-hadini toping.

A)1 B)5 C)100 D)3

270. Integralni hisoblang.

$$\int [(1 + tg(20 + x)) \cdot (1 + tg(25 - x)]dx$$

A) $2x + C$ B) $2x^2 + C$

C) $x + C$ D) $x^2 + C$ E) $3x + C$

271. Agar ABC uchburchak A,B va C burchaklari uchun

$3sinB + 4cosC = 6;\ 4sinC + 3cosB = 1$

bo'lsa, A burchak necha gradus?

A) 30° B)45° C)60° D)75° E)90°

272. $x + \sqrt{x + \frac{1}{2} + \sqrt{x + \frac{1}{4}}} = 2$ tenglamani yeching.

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

273. $f(x) = g(h(x)); h(x) = 2x^2 - 3x;$

$f`(-1) = 14$ bo'lsa, $g`(5) = ?$

A)2 B)-1,(9) C)1,9 D)1

274. $y = \frac{3x^2}{(1+x^2)\cdot(4x^2+1)}$ funksiyaning eng katta qiymatini toping.

A)1 B)0,5

C)0,3 D)0,(3)

275. ABCD qavariq to'rtburchakning AB va CD tomonlarini o'rtalarini tutashtiruvchi kesma 3 ga, BC va AD tomonlari perpendekulyar bo'lsa, diogonallari o'rtalarini tutashtirgan kesmani toping.

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

276. Maktab hovlisida 1006 ta atirgul ekilgan, Nozima barcha atirgullarning yarmini, Shahnoza ham barcha atirgullarning yarmini suv quyib sug'ordi. Bunda 3 ta atirgul ham Nozima ham Shahnoza tomonidan sug'orildi. Nechta atirgul sug'orilmay qoldi?

A)3 B)80 C)16 D)2

277. $\lim_{x\to 3}\frac{f(x)-3}{x^2-9}=2$ bo'lsa, $\lim_{x\to 3}\frac{9-f^2(x)}{x^2-3x}$ ni toping.
A)-36 B) -24 C) -18 D) -12

278. $2xy+x+y=83$ bo'lsa, barcha x va y larning yig'indisini toping.
A)-4 B)4 C)0 D)1 E)83

279. 1;2;2;3;3;3;4;4;4;4… ketma-ketlikning dastlabki 100 ta hadi yig'indisini toping.
A) 946 B) 945
C) 845 D) 846 E) 900

280. a va b manfiy butun sonlar bo'lib, a=b+2 va a+b-c=10 bo'lsa, c ning eng katta qiymatini toping.
A)-12 B)-16 C)-14 D)-10

281. $\frac{n^2+3n}{n+1}$ kasr butun son bo'ladigan n ning nechta butun qiymati bor?
A)4 B)3 C)6 D)2

282. Tenglamani yeching:
$$log_{x+2}(4-x^2)-\frac{1}{16}log_{x+2}{}^2(x-2)^2=2$$
A)$\frac{-5\pm\sqrt{17}}{2}$ B)$\frac{-5+\sqrt{17}}{2}$ C)$\frac{-5-\sqrt{17}}{2}$ D)1

283. $f(x)=x(x+1)(x+2)\dots(x+10)$ bo'lsa, f '(0) ni toping.

A)10! B)0 C)350 D)55

284. Basketbol musobaqasida 10 ta o'yinchidan 5 tadan qilib 2 ta guruhni necha xil usul bilan yasash mumkin?

A)130 B)252 C)120 D)80

285. Markaziy burchagi 36° bo'lgan sektorning yuzi 15 ga teng. Sektor radiusini toping.

A)$\sqrt{\frac{150}{\pi}}$ B)$\sqrt{\frac{45}{\pi}}$ C)$\sqrt{\frac{25}{\pi}}$ D)$\sqrt{\frac{60}{\pi}}$

286. $\frac{cos67,5°+sin67,5°}{sin67,5°-cos67,5°}$ ning qiymatini toping.
A) $1-\sqrt{2}$ B) $1+\sqrt{2}$ C) $2+\sqrt{2}$
D) $1+2\sqrt{2}$ E)$2+2\sqrt{2}$

287. $4sin10°+tg20°\cdot tg40°$ ni hisoblang.
A)-1 B)0 C)1 D)2 E)4

288. $\frac{3}{31}+\frac{309}{51}+\frac{429}{71}=a$ bo'lsa, $\frac{30}{31}+\frac{50}{51}+\frac{70}{71}$ ning qiymatini toping.
A)$3-\frac{a}{3}$ B)$7-\frac{a}{3}$ C)$7-a$ D)$3-a$

289. Konusning hajmi V ga teng,balandligi to'rtta teng qismga bo'lingan va bo'linish nuqtalaridan konus asosiga parallel tekisliklar o'tkazilgan.Hosil bo'lgan eng kichik kesik konusning hajmini toping.

A)$\frac{7}{64}V$ B)$\frac{37}{64}V$ C)$\frac{63}{64}V$ D)$\frac{19}{64}V$

290. $\int x^2\cdot sinxdx$ ni hisoblang.
A)$(2+x^2)cosx+2xsinx+C$
B) $(2-x^2)cosx+2xsinx+C$
C) $(2+x^2)cosx+2xcosx+C$
D) $(2+x^2)cosx-2sinx+C$

291. $f(x)=ax+b$ funksiya uchun $f(1)\le f(2), f(4)\le f(3)$ bo'lsa, f(4)-f(2)=?
A)2 B) 0 C)4 D)3

292. ABCD trapetsiyaning yuzi 36 ga teng, asoslari DC=6, AB=2, BC tomonidan E nuqta olingan bo'lib, BE=2EC bo'lsa, ADE uchburchak yuzini toping.

A)12 B)21 C)7 D)16

293. Muntazam ko'pburchakning tomoni unga tashqi chizilgan aylananing 72° li yoyni tortib tura di. Muntazam ko'pburchakning tomonlari sonini toping.

A)5 B)6 C)8 D)12

294. $log_{2(x-1)}|x-2|=2$ tenglamaning barcha haqiqiy ildizlari nechta?
A)1 B)2 C)3 D)4 E)∅

295. ABC uchburchakning A va C burchaklari 20º va 40º ga, B burchakning bissektrisasi 2 ga teng teng bo'lsa, AC-AB ni toping.
A)3 B)1 C)2 D)2.5 E) 1.5

296. $\frac{sin53°-sin37°}{1-2cos^2 41°}$ ni hisoblang.
A)$\sqrt{2}$ B)1 C)$-\sqrt{2}$ D)-1

297. $2C_{x+1}^2 - A_x^2 = 10$ tenglamani yeching (x natural son).
A) 2 B) 3 C) 4 D) 5

298. $x^2-4|x|-a+3=0$ a ning qanday qiymatida tenglama 4 ta yechimga ega bo'ladi?
A){-1} B)(-1;3) C){3} D)[-1;3]

299. Kater oqimi tezligi 3 bo'lgan daryoda uzoqligi 180 km bo'lgan joyga borib kelishi uchun 25 soat vaqt sarfladi. Kater huddi shu 25 soat suzgan masofani turg'un suvda qancha vaqt bosib o'tadi?
A)24 B)23 C)20 D)15
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300. ABCD parallelogrammning dioganallari O nuqtada kesishadi. $\overrightarrow{AC}=k\overrightarrow{AO}$ tenglik bajariladigan k ning son qiymatini toping.
A)2,5 B)1,5 C)2 D)3

301. ABC uchburchakda D va E nuqtalar BC tomonni 3 ta teng qismga bo'ladi. (BD=DE=EC), F va G nuqtalar esa AD kesmani 3 ta teng qismga bo'ladi. (AF=FG=GD). AFE uchburchak yuzining ABC uchburchak yuziga nisbatini toping.
A)$\frac{1}{9}$ B)$\frac{1}{3}$ C)$\frac{1}{12}$ D)$\frac{1}{4}$

302. Piramidaning asosi tomonlari 3,5,6 ga teng bo'lgan uchburchakdan iborat, Piramidaning barcha ikki yoqli burchaklari 45° ga teng bo'lsa, uning hajmini toping

A)4 B)3 C)$\frac{10}{3}$ D)$\frac{8}{3}$

303. Ifodani soddalashtiring.
$$\frac{a^2-b^2}{a}\cdot\left(\frac{a^2-b^2}{(a-b)^2}-\frac{(a-b)^2}{a^2-b^2}\right)$$
A)$\frac{a}{b}$ B)$4ab$ C)4a D)4b E)2a-2b

304. $7x^3-4x^2+2x+a+2=0$ tenglamada $x_1+x_2=0$ bo'lsa, a ni toping.
A) $-3\frac{1}{8}$ B) -1 C)0 D)3 E)3,125

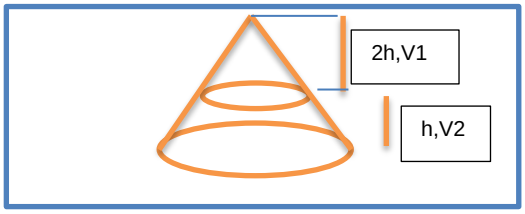
305. a; b va c sonlari o'suvchi geometrik, a; b+2 va c sonlari esa arifmetik progressiyani tashkil etadi. Agar a=1 bo'lsa, a+b+c ning qiymatini toping.
A) 11 B) 13 C) 15 D) 17

306. ABCD to'g'ri to'rtburchakda AD=2.DA nurda A nuqtadan keyin E nuqta olingan, bunda AE=1 va $\angle BEC=30°$. BE ni toping.
A)$\sqrt{3}$ B)$\sqrt{5}$ C)2 D)3

307. To'la sirti 48 bo'lgan to'g'ri burchakli parallelepipedning o'lchovlari a, b, c bo'lib,$\frac{1}{a}+\frac{1}{b}+\frac{1}{c}=\frac{1}{4}$ tenglik o'rinli.parallepipedning hajmini toping.
A)48 B)64 C)72 D)96

308. $cos36°+cos108°$ ni hisoblang.
A)1 B) 0,5 C)2 D)$\frac{4}{5}$

309. Balandligi 3h bo'lgan konus balandligi 2h va h bo'lgan konus va kesik konusga ajratildi,hosil bo'lgan V_1 va V_2 larning nisbatini toping.



A)$\frac{3}{8}$ B)$\frac{8}{19}$ C)$\frac{1}{2}$ D)$\frac{7}{13}$ E)$\frac{4}{5}$

310. arccos(sin 3) ni hisoblang.
A) -3 B) 3 C)$\pi - 3$
D) $3 - \frac{\pi}{2}$ E) $2\pi - 3$

311. Parallelogrammning diogonallari c va d, tomonlari a va b. $c^2 \cdot d^2 = a^4 + b^4$ bo'lsa parallelogrammning o'tkir burchakini toping.
A)30° B)45° C)60° D)75°

312. Teng yonli trapetsiyaning dioganali 12 ga teng va bu diagonal katta asos bilan $0.5arcsin\frac{1}{3}$ tashkil qiladi. Trapetsiyaning yuzini toping.
A)24 B)18 C)16 D)12

313. $||lg|x|| = x + 1$ tenglama nechta yechimga ega?
A) 3 B) 2 C)1 D) 4 E) ∅

314. Soddalashtiring.
$\frac{a-b}{a+b} + \frac{b-c}{b+c} + \frac{c-a}{c+a} + \frac{a-b}{a+b} \cdot \frac{b-c}{b+c} \cdot \frac{c-a}{c+a}$
A)1 B) (a+b)(a+c)(b+c) C) 0
D)(a-b)(c-a)(b-c) E) abc

315. Trapetsining dioganallari 10 va 17 ga, balandligi 8 ga teng bo'lsa,trapetsiya o'rta chizig'ini toping.
A)10 B)10,5 C)11 D)11,5

316. A(5;6;7) va B(–5;–8;–6) nuqtalar qaysi nuqtaga nisbatan simmetrik?
A) (0;1;0.5) B) (0;-1;0.5)
C) (0;1;-0.5) D) (1;0;0.5)

317. Yig'indini hisoblang.
$\frac{1}{2!} + \frac{2}{3!} + \cdots + \frac{49}{50!}$
A) $1 - \frac{1}{50!}$ B)1 C)$1+\frac{1}{49!}$ D)2

318. Hisoblang.
$\frac{3}{(1\cdot 2)^2} + \frac{5}{(2\cdot 3)^2} + \cdots + \frac{19}{(9\cdot 10)^2}$
A)0.98 B)0,99 C)1,00 D)1,01

319. $i^2 = -1$ bo'lsa, $Z_1+2Z_2=3+5i$; $Z_1-3Z_2=-2-15i$ bo'lsa, Z_1+Z_2 ni toping.
A) 1-3i B)1-i C)1+i D)2-I E)2+i

320. 3 ga bo'lganda qoldiq 1, 4 ga bo'lganda qoldiq 2 qoladigan dastlabki 20 natural qiymatlari yig'indisini hisoblang.
A) 2480 B) 2500 C) 2220
D)2460 E)2440

321. Uchlari A(2;3) B(4;5) C(-7;8) va D(–9;6) nuqtalarda bo'lgan to'rtburchakning B uchidan AC dioganalining o'rtasigacha bo'lgan masofani toping.
A) $\frac{\sqrt{170}}{2}$ B) $\frac{\sqrt{106}}{2}$
C) $\sqrt{2}$ D) $\frac{\sqrt{130}}{2}$

322. $S_2 = 4$; $S_3 = 8$ bo'lsa,geometrik progressiyaning 1- hadini toping.
A)$6 - 2\sqrt{5}$ B) $\frac{\sqrt{5}-1}{4}$ C) 1 D) 2

323. Quyida keltirilganlardan qaysi biri qorindosh sonlar?
A) 6 va 28 B) 3 va 5
C) 220 va 284 D) 429 va 201

324. P(x) ko'phad uchun
$(x^2 + 2) \cdot P(x) + ax + b =$
$= x^7 + 2x^5 + 3x^4 + 3x^3 - 2x + 5$
munosabat o'rinli bo'lsa, a+b ni hisoblang.
A)9 B)12 C)3 D)-23

325. $y = \frac{\sin(ctgx+1)+\cos(tgx+1)}{2}$ funksiyaning qiymatlar sohasini toping.

A) $[-\sqrt{2};-1)\cup(-1;0)\cup(0;1)\cup(1;\sqrt{2}]$
B) $[-\sqrt{2};-1)\cup(-1;1)\cup(1;\sqrt{2}]$
C) $[-\sqrt{2};\sqrt{2}]$
D) $[-\sqrt{2};0)\cup(0;\sqrt{2}]$

326. 5 ta har xil ruchka va 4 ta har xil daftardan necha xil usul bilan ikkalasidan ham bittadan qatnashadigan qilib tanlab olish mumkin?
Javob:

327. Agar $\vec{a}(1;5)$ va $\vec{b}(2;7)$ bo'lsa, $\vec{a}-\vec{b}$ ni toping.

A) $(-1;-2)$ B) $(1;2)$
C) $(1;-2)$ D) $(-1;2)$

328. Agar $\vec{a}(5;4)$ va $\vec{b}(4;3)$ bo'lsa, $\vec{a}-\vec{b}$ ni toping.
Javob:

329. $\vec{a}(-1;5;x)$ va $\vec{b}(-1;-2;-5)$ vektorlar uchun $\vec{a}\perp\vec{b}$ bo'lsa, x ni toping.
Javob:

330. Uchta yashikda 85,6 kg olma bor. Ikkinchi yashik birinchisining 0,8 qismini, uchinchi yashikdagi olmalar ikkinchi yashikdagi olmalarning 42,5% ini tashkil qiladi. Birinchi yashikda qancha olma bor?
Javob:

331. Uch yashikda 64,2 kg meva bor. 2-yashikdagi meva birinchi yashikdagi mevaning 0,8 qismini tashkil qiladi. 3-yashikda esa 2- yashikdagining 42,5% miqdoricha meva bor. Birinchi yashikda qancha meva bor?
A) 24 kg B) 28 kg
C) 30 kg D) 36 kg

332. Arifmetik progressiyada $9a_{11}=a_{19}$ bo'lsa, uning dastlabki 19 ta hadining yig'indisini toping.
Javob:

333. Arifmetik progressiyada $a_{13}=6a_8$ bo'lsa,S_{13} ni toping.
A) 0 B) 4 C) 26 D) 13

334. Arifmetik progressiyada $a_9=4a_6$ bo'lsa, S_9 ni toping.
Javob:

335. Trapetsiyaning o'rta chizig'i 36 ga, asoslari ayirmasining moduli 10 ga teng teng bo'lsa, uning asoslarini toping.
Javob:

336. $a^2-b^2+2a+6b-8$ ifodani ko'paytuvchilarga ajrating.
Javob:

337. $a^2-b^2+a+7b-12$ ifodani ko'paytuvchilaridan birini toping.

A)a+b+3 B) a+b+4
C) a-b+3 C) a+b-3
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338. 3 ga bo'lganda qoldiq 1, 4 ga bo'lganda qoldiq 2 qoladigan dastlabki 20 natural qiymatlari yig'indisini hisoblang.
A) 2480 B) 2500 C) 2220
D)2460 E)2440

339. $x\neq 2$ bo'lganda $x^2+\frac{2}{x}=5$ bo'lsa, x^2+2x+7 ifodaning qiymatini toping.
A)1 B)6 C)8 D)10 E) 11

340. 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, tekislikning shu aylana bilan chegaralangan ichki sohasini yuzini toping.
A) $52\frac{13}{81}\pi$ B) $53\frac{13}{81}\pi$
C) $52\frac{11}{81}\pi$ D) $52\frac{17}{81}\pi$

341. Aylana to'g'ri burchakli uchburchakning katta katetiga urinib, shu katet qarshisidagi burchak uchidan o'tadi, markazi esa gipotenuzada yotadi. Agar katetlarining

uzunliklari 6 va 8 bo'lsa, aylana radiusini toping.
Javob:

342. Aylana to'g'ri burchakli uchburchakning katta katetiga urinib, shu katet qarshisidagi burchak uchidan o'tadi, markazi esa gipotenuzada yotadi. Agar katetlarining uzunliklari 6 va 8 bo'lsa, aylana uzunligini toping.
Javob:

343. Aylana to'g'ri burchakli uchburchakning katta katetiga urinib, shu katet qarshisidagi burchak uchidan o'tadi, markazi esa gipotenuzada yotadi. Agar katetlarining uzunliklari 6 va 8 bo'lsa, aylana diametrini toping.
Javob:

344. Aylana to'g'ri burchakli uchburchakning katta katetiga urinib, shu katet qarshisidagi burchak uchidan o'tadi, markazi esa gipotenuzada yotadi. Agar katetlarining uzunliklari 3 va 4 bo'lsa, tekislikning shu aylana bilan chegaralangan ichki sohasini yuzini toping.
Javob:

345. Aylana to'g'ri burchakli uchburchakning katta katetiga urinib, shu katet qarshisidagi burchak uchidan o'tadi, markazi esa gipotenuzada yotadi. Agar katetlarining uzunliklari 3 va 4 bo'lsa, tekislikning shu aylana radiusini toping.
Javob:

346. Aylana to'g'ri burchakli uchburchakning katta katetiga urinib, shu katet qarshisidagi burchak uchidan o'tadi, markazi esa gipotenuzada yotadi. Agar katetlarining uzunliklari 3 va 4 bo'lsa, tekislikning shu aylana uzunligini toping.
Javob:

347. Aylana to'g'ri burchakli uchburchakning katta katetiga urinib, shu katet qarshisidagi burchak uchidan o'tadi, markazi esa gipotenuzada yotadi. Agar katetlarining uzunliklari 3 va 4 bo'lsa, tekislikning shu aylana diametrini toping.
Javob:

348. Aylana to'g'ri burchakli uchburchakning katta katetiga urinib, shu katet qarshisidagi burchak uchidan o'tadi, markazi esa gipotenuzada yotadi. Agar katetlarining uzunliklari 8 va 15 bo'lsa, aylana uzunligini toping.
Javob:

349. Aylana to'g'ri burchakli uchburchakning katta katetiga urinib, shu katet qarshisidagi burchak uchidan o'tadi, markazi esa gipotenuzada yotadi. Agar katetlarining uzunliklari 8 va 15 bo'lsa, aylana radiusini toping.
Javob:

350. Aylana to'g'ri burchakli uchburchakning katta katetiga urinib, shu katet qarshisidagi burchak uchidan o'tadi, markazi esa gipotenuzada yotadi. Agar katetlarining uzunliklari 8 va 15 bo'lsa, aylana diametrini toping.
Javob:

351. 1,2,2,3,3,3,4,4,4,4,5,5,5,5,5,… ketma-ketlikning 2017− hadini toping.
Javob:

352. 1,2,2,3,3,3,4,4,4,4,5,5,5,5,5,… ketma-ketlikning 2018− hadini toping.
Javob:

353. 1,2,2,3,3,3,4,4,4,4,5,5,5,5,5,… ketma-ketlikning 1997− hadini toping.
Javob:

354. $\begin{cases} x^2+y^2=4 \\ (x-3)^2+(y+4)^2=a \end{cases}$ aylanalar urinadigan barcha a larning yig'indisini toping.
A)9 B)49 C)58 D)10 E)25
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355. ABC uchburchakning AB;BC;AC tomonlari mos ravishta 4;6 va 8 ga teng va unga ichki chizilgan aylananing markazi I nuqta,I dan BC tomonga parallel kesma AC ni P nuqtada kesib o'tadi.IP kesmani toping.
A)2,(6) B)2.4 C)3 D)1 E)2.5

356. $(a^2-b^2-c^2+2bc):\left(\frac{a+b-c}{a+b+c}\right)$ ifodaning $a=3;\ b=\sqrt{3};c=-1$ bo'lgandagi qiymatini toping.
A) 1 B) 2 C)3 D)4

357. $(a^2-b^2-c^2+2bc):\left(\frac{a+b-c}{a+b+c}\right)$ ifodaning $a=5;\ b=\sqrt{3};c=-1$ bo'lgandagi qiymatini toping.
Javob:

358. $(a^2-b^2-c^2+2bc):\left(\frac{a+b-c}{a+b+c}\right)$ ifodaning $a=7;\ b=\sqrt{3};c=-1$ bo'lgandagi qiymatini toping.
Javob:

359. Hech bir uchtasi bir to'g'ri chiziqda yotmaydigan 25 ta nuqtadan nechta uchburchak yasash mumkin?
A) 2300 B)2304
C)2200 D)2100

360. Hech bir uchtasi bir to'g'ri chiziqda yotmaydigan 15 ta nuqtadan nechta uchburchak yasash mumkin?
Javob:

361. Hech bir uchtasi bir to'g'ri chiziqda yotmaydigan 35 ta nuqtadan nechta uchburchak yasash mumkin?
Javob:

362. $lg^2(100x)+lg^2(10x)+lg^2x=14$ tenglamani yeching.
A) 0,001 va 10 B) 10 va 0,01
C) 100 va 0,0001 D) 0,1 va 1

363. $lg^2(100x)+lg^2(10x)+lg^2x=14$ tenglamaning ildizlari kopaytmasini toping.
Javob:

364. $lg^2(1000x)+lg^2(10x)+lg^2x=14$ tenglamani yeching.
Javob:

365. $lg^2(100x)+lg^2(0.1x)+lg^2x=14$ tenglamani ildizlarining yig'indisini toping.
Javob:

366. Hisoblang.
$log_2(cos100°+cos20°)-log_2 sin50°$
A)-2 B)-1 C)0 D)1 E)2

367. $cos6°\cdot cos42°\cdot cos66°\cdot cos78°$ ni hisoblang.

A)$\frac{\sqrt{3}}{16}$ B)$\frac{1}{8}$ C)$\frac{\sqrt{3}}{8}$ D)$\frac{1}{16}$ E)1

368. $x,y\in Z\ va\ 3x+5y=7$, bo'lsa, x+4y quyidagilardan qaysi biriga teng bo'lishi mumkin?
A)8 B)15 C)21 D)25 E)30

369. $\left[\frac{2x-1}{3}\right]=x-1$ tenglama nechta yechimga ega(bu yerda [a]- a ning butun qismi).
A)2 B)4 C)3 D)1 E)5

370. M sonini 3 ga bo'lganda qoldiqda $\frac{(3a+1)^{40}+1}{(3a+1)^{20}}$ qoladi. a ning eng kichik qiymati nechiga teng.
A) -0,(6) B) 1 C) -0,5 D) 0

371. Ifodani soddalashtiring:

$$\frac{x^3+27}{2x-2}\cdot\frac{x^2-1}{x^2+4x+3}\cdot\frac{6x+12}{3x^2-9x+27}$$

Javob:
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372. $2x^2-\left(2\sqrt{3}+3\sqrt{2}\right)x+\sqrt{6}+2=0$ tenglamaning kichik ildizini toping.
A) $\frac{\sqrt{2}}{2}$ B) $\sqrt{3}-\sqrt{2}$
C)$-\frac{\sqrt{2}}{2}$ D) $\sqrt{3}+\sqrt{2}$

373. $2x^2-\left(2\sqrt{3}+3\sqrt{2}\right)x+\sqrt{6}+2=0$ tenglamaning katta ildizini toping.
Javob:

374. Tenglamani yeching:
$4cos^2x - 2sin^2x - 5cosx - 4 = 0$
A) $\pm arccos\frac{2}{3} + \pi n, \quad n \in Z$
B) $\pm arccos\left(-\frac{2}{3}\right) + 2\pi n, \quad n \in Z$
C) $arccos\left(-\frac{2}{3}\right) + \pi n, \quad n \in Z$
D) $\pm arccos\left(-\frac{2}{3}\right) + \pi n, \quad n \in Z$

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

A) $\{-1;0)\cup(2;3]$
B) $(-\infty;0)\cup(2;\infty)$
C) $(-\infty;-1]\cup[3;\infty)$ D) $[-1;3]$

376. Funksiyaning aniqlanish sohasini toping:
$y = \sqrt{log_{\frac{1}{3}}(x^2 + 2x) + 1}$
Javob:

377. Funksiyaning aniqlanish sohasini toping:
$y = \sqrt{log_{\frac{1}{3}}(x^2 - 2x) - 1}$
Javob:

378. Funksiyaning aniqlanish sohasini toping:
$y = \sqrt{log_{\frac{1}{5}}(x^2 - 2x + 1) + 1}$
Javob:0

379. O'lchamlari 40×20×5 *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) 0,4 m^2 B) 40 m^2
C) 4 m^2 D) 40 sm^2

380. O'lchamlari 80×40×10 *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.
Javob:

381. Bir noma'lumli tenglama nechta ildizga ega bo'lishi mumkin?
1) bitta ildizga;
2) cheksiz ko'p ildizga;
3) ildizi yo'q.
A) 1;2;3 B) faqat 2 va 3
C) faqat 1 D) faqat 1 va 3

382. Quyidagi tasdiqlarning qaysilari to'g'ri?
1) Kub - barcha yoqlari kvadratlardan iborat ko'pyoqdir;
2) Parallelepiped - barcha yoqlari parallelogramdan iborat ko'pyoqdir; 3) Prizma - asoslari deb atalgan ikii yog'i parallel tekisliklarda yotuvchi, qolgan yoqlari trapetsiyadan iborat ko'pyoqdir.
A) 1;3 B) 1;2 C) 1;2;3 D) 2;3

383. $S_2 = 4; \quad S_3 = 8$ bo'lsa,geometrik progressiyaning 1- hadini toping.
A)$6 - 2\sqrt{5}$ B) $\frac{\sqrt{5}-1}{4}$ C) 1 D) 2

384. $||lg|x|| = x - 1$ tenglama nechta yechimga ega.
A) 2 B) 3 C) 1 D) 4
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385. $\sqrt{8 + 2^{\sqrt{3-x}+1} - 4^{\sqrt{3-x}}} + 2^{\sqrt{3-x}+1} > 5$ tengsizlikni qanoatlantiruvchi eng kichik va eng katta butun sonlar ayirmasining absolyut qimatini toping.
A) 3 B) 4 C) 2 D) 0

386. $\sqrt{8 + 2^{\sqrt{3-x}+1} - 4^{\sqrt{3-x}}} + 2^{\sqrt{3-x}+1} > 5$ tengsizlikni qanoatlantiruvchi eng kichik va eng katta butun sonlar ko'paytmasining absolyut qimatini toping.
Javob:

387. Radiusi 3 ga teng bo'lgan aylanaga ikkita AB va AC urinmalar o'tkazilgan bo'lib, bunda A nuqta aylana markazidan 4 ga teng masofada joylashgan. Berilgan aylanaga, AB va AC urinmalarga urinuvchi aylana(hosil bo'lgan yangi aylananing radiusi berilgan aylananing radiusidan kata)ning radiusini toping.
A) 21 B) 36 C) 55 D) 78

388. Radiusi 3 ga teng bo'lgan aylanaga ikkita AB va AC urinmalar o'tkazilgan bo'lib, bunda A nuqta aylana markazidan 4 ga teng masofada joylashgan. Berilgan aylanaga, AB va AC urinmalarga urinuvchi aylana(hosil bo'lgan yangi aylananing radiusi berilgan aylananing radiusidan kata)ning diametrini toping.
A) 42 B) 72 C) 110 D)156

389. Radiusi 3 ga teng bo'lgan aylanaga ikkita AB va AC urinmalar o'tkazilgan bo'lib, bunda A nuqta aylana markazidan 4 ga teng masofada joylashgan. Berilgan aylanaga, AB va AC urinmalarga urinuvchi aylana(hosil bo'lgan yangi aylananing radiusi berilgan aylananing radiusidan kata)ning uzunligini toping.
A) 42π B) 72π C) 110π D)$156\,\pi$

390. Uchburchakli piramidaning yon qirralari bir xil uzunlikka ega bo'lib, bu uzunlik 6 ga teng. Bu piramidaning uchidagi tekis burchaklaridan ikkitasi 45°, uchinchisi 60° ga teng bo'lsa, piramidaning hajmini toping.
A) 14,(6) B) 15
C)17,(6) D) 18

391. ABC uchburchakning tomonlarining uzunliklari AB=5, BC=4, AC=6 bo'lsa, $\overrightarrow{CA}\cdot\overrightarrow{CB}$ skalyar ko'paytmani hisoblang.
A)-2,5 B) 0,5
C) 2,5 D) 1,25

392. ABC uchburchakning tomonlarining uzunliklari AB=5, BC=4, AC=6 bo'lsa, $\overrightarrow{AB}\cdot\overrightarrow{AC}$ skalyar ko'paytmani hisoblang.
Javob:

393. ABC uchburchakning tomonlarining uzunliklari AB=5, BC=4, AC=6 bo'lsa, $\overrightarrow{BA}\cdot\overrightarrow{BC}$ skalyar ko'paytmani hisoblang.
Javob:

394. Tengsizlikni yeching. $2^x < \sqrt{x}$
A) $\emptyset$ B)[0,1]
C){0;1} D)$[0;+\infty)$

395. $\sqrt{3-x} > x-1$ tengsizlikni yeching.
A) $(-\infty;2)$ B) (0;3]
C) (2;3] D) (1;3]

396. Teng yonli ABCD trapetsiyada AC dioganal CD tomonga perpendikulyar. Agar AD = 4, $|AB|^2+|BC|^2=11$ bo'lsa, $|AB|$ ni toping.
A) 3 B) $\sqrt{2}$
C) 2 D) 1,5

397. $\begin{cases} x+y+x^2+y^2=8 \\ x^2y+y^2x=6 \end{cases}$ sistemani yeching.
A) (1; −3);(−3;1);(1;2);(2;1)
B) (-1; −3);(3;-1);(1;2);(2;1)
C) (1; −3);(−3;1);(-1;2);(2;-1)
D) (1; −3);(−3;1);(1;-2);(-2;1)

398. $\begin{cases} x+y+x^2+y^2=8 \\ x^2y+y^2x=6 \end{cases}$ sistemani qanoatlantiruvchi barcha x va y larning yig'indisini hisoblang.
Javob:

399. $\begin{cases} x+y+x^2+y^2=8 \\ x^2y+y^2x=6 \end{cases}$ sistemani qanoatlantiruvchi barcha x va y larning ko'paytmasini hisoblang.
A)36 B) 48 C)12 D) 10

400. $\frac{(8-x)^2}{3-x} \le 0$ tengsizlikning [-1;9] kesmadagi butun yechimlari yig'indisini hisoblang.
Javob:

401. $\frac{(8-x)^2}{3-x} \le 0$ tengsizlikning [-1;9] kesmadagi butun yechimlari nechta?
Javob:

402. $\frac{(8-x)^2}{3-x} \le 0$ tengsizlikning [-1;9] kesmadagi eng katta va eng kichik butun yechimlari yig'indisini hisoblang.
Javob:

403. a va b 6 ga bo'linmaydigan juft sonlar. a va b ni 6 ga bo'lganda bir xil qoldiq qoladi. $a+b$ ni 6 ga bo'lgandagi qoldini toping.

Javob:

404. $3a+2b+2c=0$ bo'lsa,
$\frac{a}{b+c}+\frac{b}{3a+2c}+\frac{c}{3a+2b}=?$
Javob:

405. $\int\left(lnx^{lnx^{lnx^{lnx}}}\cdot\frac{1}{x}+e^{x}cosx\right)dx$ integralni hisoblang.
A) $\frac{ln^5x}{5}-\frac{e^x}{2}\cdot(cosx+sinx)+C$
B) $\frac{ln^5x}{5}+\frac{e^x}{2}\cdot(cosx-sinx)+C$
C) $\frac{ln^5x}{10}-\frac{e^x}{2}\cdot(cosx+sinx)+C$
D) $\frac{ln^5x}{5}+\frac{e^x}{2}\cdot(cosx+sinx)+C$

406. Radiusi 10 ga teng bo'lgan yarim sharga konus shunday tashqi chizilganki, konus asosining markazi bilan yarimsharning markazi ustma-ust tushadi.Konusning balandligi qanday bo'lganda uning hajmi eng katta bo'ladi?
A)10 B)15 C)$10\sqrt{3}$ D)$10\sqrt{2}$

407. $y=lnx^{lnx^{\cdots^{lnx}}}$ (bu yerda 2018 ta lnx bor) funksiyaning 2-tartibli hosilasini toping.
A) $\frac{2018\cdot2017\cdot ln^{2016}x-2018\cdot ln^{2017}x}{x^2}$
B) $\frac{2018\cdot2017\cdot ln^{2016}x-2018\cdot ln^{2017}x}{2016x^2}$
C) $\frac{2018\cdot2017\cdot xln^{2016}x+2018\cdot2016\cdot ln^{2017}x}{2016x^2}$
D) $\frac{2018\cdot2017\cdot xln^{2016}x-2018\cdot2016\cdot ln^{2017}x}{x^2}$

408. $a=\sqrt[3]{4}+\sqrt[3]{2}+1$ bo'lsa, $\frac{3}{a}+\frac{3}{a^2}+\frac{3}{a^3}$ ni hisoblang.
Javob:

409. $a=\sqrt[3]{9}+\sqrt[3]{3}+1$ bo'lsa, $\frac{3}{a}+\frac{3}{a^2}+\frac{3}{a^3}$ ni hisoblang.
Javob:

410. Agar $|a|\neq|b|\neq|c|$ va $\frac{a^2}{a+b}+\frac{b^2}{b+c}+\frac{c^2}{a+c}$ bo'lsa, $\frac{b^2}{a+b}+\frac{c^2}{b+c}+\frac{a^2}{a+c}$ ni qiymatini hisoblang.
A) 8 B)6
C) 7 D)9

411. Ikkita son o'rta proporsionali shu sonlardan kichigidan 6 ga ko'p, o'rta arifmetigi esa kattasidan 7 ga kam bo'lsa, kichik sonni toping.
A) 18 B)20 C)24 D)30

412. Ikkita son o'rta proporsionali shu sonlardan kichigidan 6 ga ko'p, o'rta arifmetigi esa kattasidan 7 ga kam bo'lsa, katta sonni toping.
A) 32 D)30 C)36 D)42

413. Ikkita son o'rta proporsionali shu sonlardan kichigidan 6 ga ko'p, o'rta arifmetigi esa kattasidan 7 ga kam bo'lsa,shu sonlarni toping.
A) 18 va 32 B) 18 va 30
C) 20 va 32 D) 20 va 34

414. Uchburchakli piramidaning asosining tomonlari 6, 6 va 8 ga teng. Asosidagi barcha ikki yoqli burchaklari 45° ga teng bo'lsa, piramidaning hajmini toping.
A) $\frac{32}{3}$ B) 10 C)$\frac{34}{3}$ D)11

415. Uchburchakli piramidaning asosining tomonlari 6, 6 va 8 ga teng. Asosidagi barcha ikki yoqli burchaklari 45° ga teng bo'lsa, piramidaning balandligini toping.
Javob:

416. Uchburchakli piramidaning asosining tomonlari 6, 6 va 8 ga teng. Asosidagi barcha ikki yoqli burchaklari 45° ga teng bo'lsa, piramidaning yon sirtini yuzini toping.
Javob:

417. Arifmetik progressiyaning dastlabki 5 ta hadi yig'indisi 100 ga teng bo'lib, barcha hadlari natural sonlardan iborat. Bu progressiyaning eng katta hadi nechaga teng bo'lishi mumkin?
Javob:

418. Arifmetik progressiyaning dastlabki 5 ta hadi yig'indisi 100 ga teng bo'lib, barcha hadlari natural sonlardan iborat. Bu

progressiyaning eng kichik hadi nechaga teng bo'lishi mumkin?
Javob:

419. Arifmetik progressiyaning dastlabki 5 ta hadi yig'indisi 100 ga teng bo'lib, barcha hadlari natural sonlardan iborat. Bu progressiyaning o'rta hadi nechaga teng bo'lishi mumkin?
Javob:

420. Muntazam uchburchakka tomoni uzunligi 1 ga teng bo'lgan kvadrat ichki chizilgan. Uchburchakning yuzini toping.
Javob:

421. Muntazam uchburchakka tomoni uzunligi 1 ga teng bo'lgan kvadrat ichki chizilgan. Uchburchakning peremetrini toping.
Javob:

422. Muntazam uchburchakka tomoni uzunligi 1 ga teng bo'lgan kvadrat ichki chizilgan. Uchburchakning balandligini toping.
Javob:

423. (2; −3) nuqtani Ox o'qiga nisbatan simmetrik bo'lgan nuqtasini toping.
Javob:

424. (2; −3) nuqtani Oy o'qiga nisbatan simmetrik bo'lgan nuqtasini toping.
Javob:

425. (2; −3) nuqtani koordinata boshiga nisbatan simmetrik bo'lgan nuqtasini toping.
Javob:
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426. $y = 3 \cdot \sqrt{tgx - 1}$ funksiyaning qiymatlar to'plamini toping.
A) $[0; \infty)$ B) $[3; \infty)$
C) $[-1; \infty)$ D) $[-3; \infty)$

427. $y = 3 \cdot \sqrt{tgx + 1}$ funksiyaning qiymatlar to'plamini toping.
A) $[0; \infty)$ B) $[3; \infty)$
C) $[-1; \infty)$ D) $[-3; \infty)$

428. $y = 7 \cdot \sqrt{tgx - 1}$ funksiyaning qiymatlar to'plamini toping.
A) $[0; \infty)$ B) $[3; \infty)$
C) $[-1; \infty)$ D) $[-3; \infty)$

429. $2^{\sqrt{x-3}+1} - 6 \geq 2^{\sqrt{x-3}-3}$ tengsizlikni yeching.
Javob:

430. $2^{\sqrt{x-3}+1} - 6 \leq 2^{\sqrt{x-3}-3}$ tengsizlikni yeching.
Javob:

431. A shahardan B shaharga 6 xil usulda borish mumkin, B shahardan C shaharga esa 4 xil usul bilan borish mumkin. Agar A dan D ga 2 xil usul bilan, D dan B ga ham 2 xil usul bilan borish mumkin bo'lsa, A dan C ga necha xil usul bilan borish mumkin? A) 40
B)36
C)44 D)56

432. Soddalashtiring:

$$\frac{tg2\alpha + 1 + ctg\left(2\alpha + \frac{3\pi}{2}\right) \cdot tg\left(\frac{3\pi}{2} + \alpha\right)}{ctg\alpha + tg\alpha}$$

Javob:

433. 5 ta har xil ruchka va 4 ta daftardan nech xil usul bilan ikkalasidan ham tanlab olish mumkin?
Javob:
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434. $4^3 + 8^3 + \cdots + 100^3 = ?$
A)7670000 B)6750000
C)6760000 D)6780000

435. $a = log_{108}2$ $bo'lsa, log_{108}3$ ni toping.
A) $\frac{1-2a}{3}$ B) $\frac{1-3a}{3}$
C) $\frac{1-2a}{4}$ D) $\frac{1+2a}{3}$

436. $sinx + cosx = 1{,}04$ x ning qiymati qaysi chorakda joylashgan?
A) I B) I, II
C) I,IV D) yechimga ega emas

437. $sinx + cosx = -1{,}04$ x ning qiymati qaysi chorakda joylashgan?
A) III B) I, II
C) I,IV D) yechimga ega emas

438. $sinx + cosx = 0{,}94$ x ning qiymati qaysi chorakda joylashgan?
A) II, IV B) I, II
C) I,IV D) yechimga ega emas

439. $sinx + cosx = -0{,}94$ x ning qiymati qaysi chorakda joylashgan?
A) II, IV B) I, II
C) I,IV D) yechimga ega emas

440. Quyidagi berilgan tenglama ildizlari yig'indisini toping.
$(x-3)^6 + (x^2-2x-1)^3 = 0$
A) 2 B) 3 C) 1 D) 4

441. Quyidagi berilgan tenglama ildizlari yig'indisini toping.
$(x-3)^6 + (x^2-2x+1)^3 = 0$
Javob:

442. $y = 2x^5 - lnx$ funksiyaga x_0=1 nuqtada o'tkazilgan urinma tenglamasini tuzing.
A) $f(x) = 11 - 9x$
B) $f(x) = 9x + 11$
C) $f(x) = 9x - 8$
D) $f(x) = -11 - 9x$

443. $y = 2x^5 - lnx$ funksiyaga x_0=2 nuqtada o'tkazilgan urinma tenglamasini tuzing.
Javob:

444. 7,11,15… 411 va 13,19,25…265 arifmetik progressiyalar berilgan.Bu progressiyalar umumiy hadlarining eng kattasi va eng kichikining ayirmasini toping.
A)228 B)220 C)248 D)231

445. 7,11,15… 411 va 13,19,25…265 arifmetik progressiyalar berilgan.Bu progressiyalar umumiy hadlarining eng kattasi va eng kichikining yig'indisini toping.
Javob:

446. Asoslari a va b, diogonallari m,n bo'lgan trapetsiya uchun
$m^2 + n^2 = (a+b)^2$ bo'lsa, trapetsiyaning diogonallari orasidagi burchakni toping.
A)60^0 B)45^0 C)30^0 D)90^0

447. $y = \cos\frac{2x-11}{5}$ berilgan funksiyaning eng kichik musbat davrini toping.
A) 5π B) 2π C) 3π D) 4π

448. $y = 97\cos\frac{2x+11}{5} + 2018$ berilgan funksiyaning eng kichik musbat davrini toping.
A) 5π B) 2π C) 3π D) 4π

449. $(x^2+3x+1)\cdot(x^2+3x+3) < 35$
Tengsizlikning eng katta va eng kichik yechimlarining ayirmasini toping.
A)5 B) 3 C) 4 D)6

450. $(x^2+3x+1)\cdot(x^2+3x+3) < 35$
Tengsizlikning eng katta yechimini toping.
Javob:
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451. $(x^2+3x+1)\cdot(x^2+3x+3) < 35$
tengsizlikning eng kichik yechimini toping.
Javob:

452. ABC uchburchakning BM medianasi va BC tomoniga parallel bo'lgan PN kesma O nuqtada kesishadi. $S_{BON}=S_{POM}$ hamda S_{ABC}=18 sm² bo'lsa, APN uchburchakning yuzini toping.
A)15 B)9 C)16 D)10

453. Silindrning balandlig h va asosining radiusi r. Silindrga tashqi chizilgan shar sirtining yuzini toping.
A) $\pi(4r^2-h^2)$ B) $\pi(r^2+h^2)$ C)$\pi(4r^2+h^2)$ D) $\pi(2r^2+h^2)$

454. Hisoblang: $\frac{1}{cos200^\circ} + 4sin50^\circ$
A) 1 B) $\frac{\sqrt{3}}{2}$ C) $\sqrt{3}$ D)2

455. To'g'ri burchakli uchburcha katetlari a va b ga teng, hamda o'tkir burchaklaridan biri x ga teng bo'lsa tgx ni toping.
Javob:

456. To'g'ri burchakli uchburcha katetlari a va b ga teng, hamda o'tkir burchaklaridan biri x ga teng bo'lsa ctgx ni toping.
Javob:

457. To'g'ri burchakli uchburcha katetlari a va b ga teng, hamda o'tkir burchaklaridan biri x ga teng bo'lsa sinx ni toping.
Javob:

458. To'g'ri burchakli uchburcha katetlari a va b ga teng, hamda o'tkir burchaklaridan biri x ga teng bo'lsa cosx ni toping.
Javob:
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459. $\sqrt{21-\sqrt{21+x}}=x$ tenglama nechta natural yechimga ega?
Javob:

460. $\sqrt{21-\sqrt{21+x}}=x$ tenglama yeching.
Javob:

461. $f(x)=e^x-x-1$ funksiyaning o'sish oralig'ini toping.
A) $[0;\infty)$ B) $[1;\infty)$
C) $[-2;5]$ D) $(-\infty;1)$
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462. $f(x)=e^x-x-1$ funksiyaning kamayish oralig'ini toping.
Javob:

463. $f(x)=e^x-x-1$ funksiyaning eng katta qiymatini toping.
Javob:

464. $f(x)=e^x-x-1$ funksiyaning eng kichik qiymatini toping.
Javob:

465. Geometrik progressiyada $b_5-b_1=18$ va $b_3-b_1=12$ bo'lsa, b_{11} ni toping.
A) −0,75 B) 0,5
C) 1,5 D) −0,5

466. Geometrik progressiyada $b_5-b_1=18$ va $b_3-b_1=12$ bo'lsa, b_1 ni toping.
Javob:

467. $f(x)=\left(\frac{1}{3}\right)^{x^2-6x+11}$ funksiyaning qiymatlar sohasining toping.
A) $[0;\infty)$ B) $\left(0;\frac{1}{9}\right]$
C) $(\frac{1}{3};\infty)$ D) $(3;\infty)$
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468. Uchburchakli muntazam piramidaga tashqi chizilgan sharning markazi uning balandligini uchidan 6 va 3 ga teng bo'lgan qismlarga ajratdi. Piramidaning hajmini toping.
A) $\frac{729\sqrt{3}}{4}$ B) $\frac{81\sqrt{3}}{4}$
C) $\frac{25\sqrt{3}}{4}$ D) $\frac{243\sqrt{3}}{4}$

469. Soddalashtiring.
$$\frac{a^3(c-b)+b^3(a-c)+c^3(b-a)}{a^2(c-b)+b^2(a-c)+c^2(b-a)}$$
A)a-b+c B)2a-b-c
C)a+b-c D)a+b+c

470. A(3,01;-2,03) nuqtalardan o'tuvchi va m(-10;20) vektorga perpendekulyar bo'lgan to'g'ri chiziq tenglamasini tuzing.
A)10y+5x+35,35=0
B)10y-5x+35,35=0
C)10y+5x-35,35=0
D)10y-5x-35,35=0

471. $a=\frac{1}{6}(log_2^3 3-log_2^3 6-log_2^3 12+log_2^3 24)$ bo'lsa, 2^a ni toping.
A) 72 B) 75
C) 80 D)60
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472. $a=\frac{1}{6}(log_2^3 3-log_2^3 6-log_2^3 12+log_2^3 24)$ bo'lsa, 4^a ni toping.
Javob:

473. $\frac{x^2}{4}+\frac{9}{x^2}-2\left(\frac{x}{2}-\frac{3}{x}\right)-\frac{9}{4}\le 0$ tengsizlikni butun yechilari nechta?
A) 3 ta B) 2 ta
C) 1 ta D) yechimga ega emas

474. $\frac{x^2}{4}+\frac{9}{x^2}-2\left(\frac{x}{2}-\frac{3}{x}\right)-\frac{9}{4}\le 0$ tengsizlikning eng katta butun yechimini toping.
Javob:
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475. ABC uchburchakning tomonlari uzunliklari AB=5, BC=4 va CA=4 bo'lsa, $\overrightarrow{CA}\cdot\overrightarrow{CB}$ skalyar ko'paytmani hisoblang.
Javob:

476. ABC uchburchakning tomonlari uzunliklari AB=5, BC=4 va CA=4 bo'lsa, $\overrightarrow{AB}\cdot\overrightarrow{AC}$ skalyar ko'paytmani hisoblang.
Javob:

477. ABC uchburchakning tomonlari uzunliklari AB=5, BC=4 va CA=4 bo'lsa, $\overrightarrow{BA}\cdot\overrightarrow{BC}$ skalyar ko'paytmani hisoblang.
Javob:

478. $y=\ln(x^2-2x-3)$ funksiyaning manfiy qiymatlar qabul qiladigan butun x lar sonini toping.
Javob:

479. ABC uchburchakning BC tomonida D nuqta olingan.Agar BD=16,DC=4 va AB=AD=10 bo'lsa, ADC uchburchakning yuzini toping.
A)12 B)14 C)10 D)16

480. ABC uchburchakning BC tomonida D nuqta olingan.Agar BD=12,DC=4 va AB=AD=10 bo'lsa, ADC uchburchakning yuzini toping.
A)16 B)14 C)10 D)12

481. ABC uchburchakning BC tomonida D nuqta olingan.Agar BD=6,DC=4 va AB=AD=5 bo'lsa, ADC uchburchakning yuzini toping.
A)8 B)14 C)10 D)16

482. ABC uchburchakning BC tomonida D nuqta olingan.Agar BD=8,DC=4 va AB=AD=5 bo'lsa,ADC uchburchakning yuzini toping.
A) 6 B) 14 C) 10 D) 16

483. ABC uchburchakning BC tomonida D nuqta olingan.Agar BD=16, DC=4 va AB=AD=17 bo'lsa,ADC uchburchakning yuzini toping.
A)30 B)28 C)20 D)32
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484. ABC uchburchakning BC tomonida D nuqta olingan.Agar BD=30,DC=4 va AB=AD=17 bo'lsa,ADC uchburchakning yuzini toping.
A)16 B)28 C)20 D)32

485. ABC uchburchakning BC tomonida D nuqta olingan.Agar BD=10,DC=4 va AB=AD=13 bo'lsa,ADC uchburchakning yuzini toping.
A)24 B)28 C)20 D)32

486. ABC uchburchakning BC tomonida D nuqta olingan.Agar BD=24,DC=4 va AB=AD=13 bo'lsa,ADC uchburchakning yuzini toping.
A)10 B)14 C)20 D)16
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487. ABC uchburchakning BC tomonida D nuqta olingan.Agar BD=15,DC=4 va AB=AD=12,5 bo'lsa,ADC uchburchakning yuzini toping.
A)20 B)28 C)20 D)32

488. ABC uchburchakning BC tomonida D nuqta olingan.Agar BD=20,DC=4 va AB=AD=10 bo'lsa,ADC uchburchakning yuzini toping.
A)15 B)28 C)20 D)32

489. A(0;1) va B(5;-3) nuqtalar berilgan.Agar B nuqta AC kesmaning o'rtasi bo'lsa, C nuqta koordinatalar yig'indisini toping.
A)3 B)2,5 C)2 D)4

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490. A(4;-1) va B(2;-5) nuqtalar berilgan.Agar B nuqta AC kesmaning o'rtasi bo'lsa, C nuqta koordinatalar yig'indisini toping.
A)-9 B)-5 C)12 D)-4

491. A(-3;2) va B(2;0) nuqtalar berilgan.Agar B nuqta AC kesmaning o'rtasi bo'lsa, C nuqta koordinatalar yig'indisini toping.
A)-9 B)-5 C)12 D)-4

492. A(3;-2) va B(0;-2) nuqtalar berilgan.Agar B nuqta AC kesmaning o'rtasi bo'lsa, C nuqta koordinatalar yig'indisini toping.
A)-5 B)-9 C)12 D)-4

493. A(-8;-3) va B(-2;3) nuqtalar berilgan.Agar B nuqta AC kesmaning o'rtasi bo'lsa, C nuqta koordinatalar yig'indisini toping.
A)13 B)-5 C)-9 D)-4

494. ABCD trapetsiyaning yuzi 48 ga teng, asoslari DC=6, AB=2. BC tomonidan E nuqta olingan bo'lib, BE=2EC bo'lsa, ADE uchbutchakning yuzini toping.
A)28 B)18 C)24 D)32

495. ABCD trapetsiyaning yuzi 24 ga teng, asoslari DC=6, AB=2. BC tomonidan E nuqta olingan bo'lib, BE=2EC bo'lsa, ADE uchbutchakning yuzini toping.
A)14 B)21 C)12 D)16

496. ABCD trapetsiyaning yuzi 36 ga teng, asoslari DC=6, AB=2. BC tomonidan E nuqta olingan bo'lib, BE=2EC bo'lsa, ADE uchbutchakning yuzini toping.
A)21 B)14 C)12 D)16

497. ABCD trapetsiyaning yuzi 12 ga teng, asoslari DC=6, AB=2. BC tomonidan E nuqta olingan bo'lib, BE=2EC bo'lsa, ADE uchbutchakning yuzini toping.
A)7 B)21 C)12 D)16

498. ABCD trapetsiyaning yuzi 60 ga teng, asoslari DC=6, AB=2. BC tomonidan E nuqta olingan bo'lib, BE=2EC bo'lsa, ADE uchbutchakning yuzini toping.
A)35 B)21 C)12 D)16

499. Muntazam ko'pburchakning tomoni unga tashqi chizilgan aylananing 36° li yoyni tortib turadi.Muntazam ko'pburchakning tomonlari sonini toping.
A)10 B)12 C)6 D)8

500. Muntazam ko'pburchakning tomoni unga tashqi chizilgan aylananing 30° li yoyni tortib turadi.Muntazam ko'pburchakning tomonlari sonini toping.
A)12 B)10 C)6 D)8

501. Muntazam ko'pburchakning tomoni unga tashqi chizilgan aylananing 72° li yoyni tortib turadi.Muntazam ko'pburchakning tomonlari sonini toping.
A)5 B)12 C)6 D)8

502. Muntazam ko'pburchakning tomoni unga tashqi chizilgan aylananing 60° li yoyni tortib turadi.Muntazam ko'pburchakning tomonlari sonini toping.
A)6 B)12 C)16 D)18

503. Muntazam ko'pburchakning tomoni unga tashqi chizilgan aylananing 18°li yoyni tortib turadi.Muntazam ko'pburchakning tomonlari sonini toping.
A)20 B)12 C)10 D)8

504. Muntazam ko'pburchakning tomoni unga tashqi chizilgan aylananing 10°li yoyni tortib turadi.Muntazam ko'pburchakning tomonlari sonini toping.
A)36 B)24 C)26 D)28

505. Markaziy burchagi 72° bo'lgan sektorning yuzi 15 ga teng. Sektor radiusini toping.
A) $\sqrt{\frac{75}{\pi}}$ B) $\sqrt{\frac{45}{\pi}}$ C) $\sqrt{\frac{15}{\pi}}$ D) $\sqrt{\frac{25}{\pi}}$

506. Markaziy burchagi 36° bo'lgan sektorning yuzi 15 ga teng. Sektor radiusini toping.
A) $\sqrt{\frac{150}{\pi}}$ B) $\sqrt{\frac{45}{\pi}}$ C) $\sqrt{\frac{15}{\pi}}$ D) $\sqrt{\frac{25}{\pi}}$

507. Markaziy burchagi 120° bo'lgan sektorning yuzi 15 ga teng. Sektor radiusini toping.
A) $\sqrt{\frac{45}{\pi}}$ B) $\sqrt{\frac{75}{\pi}}$ C) $\sqrt{\frac{15}{\pi}}$ D) $\sqrt{\frac{25}{\pi}}$

508. Markaziy burchagi 60° bo'lgan sektorning yuzi 15 ga teng. Sektor radiusini toping.
A) $\sqrt{\frac{90}{\pi}}$ B) $\sqrt{\frac{45}{\pi}}$ C) $\sqrt{\frac{60}{\pi}}$ D) $\sqrt{\frac{25}{\pi}}$

509. Markaziy burchagi 90° bo'lgan sektorning yuzi 15 ga teng. Sektor radiusini toping.
A) $\sqrt{\frac{60}{\pi}}$ B) $\sqrt{\frac{75}{\pi}}$ C) $\sqrt{\frac{90}{\pi}}$ D) $\sqrt{\frac{48}{\pi}}$

510. To'g'ri burchakli uchburchakka ichki va tashqi chizilgan aylana radiuslari uzunliklari yig'indisi 4 ga, gipotenuzasi esa 6 ga teng. Uchburchakning peremetrini toping.
A)14 B)12
C)18 D)20

511. To'g'ri burchakli uchburchakka ichki va tashqi chizilgan aylana radiuslari uzunliklari yig'indisi 5 ga, gipotenuzasi esa 8 ga teng. Uchburchakning peremetrini toping.
A)18 B)12
C)20 D)14

512. To'g'ri burchakli uchburchakka ichki va tashqi chizilgan aylana radiuslari uzunliklari yig'indisi 7 ga, gipotenuzasi esa 10 ga teng. Uchburchakning peremetrini toping.
A)24 B)12 C)14 D)20

513. To'g'ri burchakli uchburchakka ichki va tashqi chizilgan aylana radiuslari uzunliklari yig'indisi 3,5 ga, gipotenuzasi esa 5 ga teng. Uchburchakning peremetrini toping.
A)12 B)14 C)18 D)20

514. To'g'ri burchakli uchburchakka ichki va tashqi chizilgan aylana radiuslari uzunliklari yig'indisi 17 ga, gipotenuzasi esa 26 ga teng. Uchburchakning peremetrini toping.
A)60 B)72 C)58 D)50

515. ABCD to'rtburchak aylanaga ichki chizilgan. Agar $\angle ABC = 105°$, $\angle CAD = 35°$ bo'lsa, $\angle ABD$ ni toping.
A) 70° B) 60° C) 75° D) 80°

516. ABCD to'rtburchak aylanaga ichki chizilgan. Agar $\angle ABC = 105°$, $\angle CAD = 45°$ bo'lsa, $\angle ABD$ ni toping.
A) 60° B) 70° C) 75° D) 80°

517. ABCD to'rtburchak aylanaga ichki chizilgan. Agar $\angle ABC = 105°$, $\angle CAD = 30°$ bo'lsa, $\angle ABD$ ni toping.
A) 75° B) 60° C) 70° D) 80°

518. ABCD to'rtburchak aylanaga ichki chizilgan. Agar $\angle ABC = 105°$, $\angle CAD = 25°$ bo'lsa, $\angle ABD$ ni toping.
A) 80° B) 60° C) 75° D)70°

519. ABCD to'rtburchak aylanaga ichki chizilgan. Agar $\angle ABC = 105°$, $\angle CAD = 55°$ bo'lsa, $\angle ABD$ ni toping.
A) 50° B) 60° C) 75° D) 80°

520. To'g'ri burchakli ABCD trapetsiyaning B va C burchaklari to'gri. AB = 3, BC = 6 va DC = 4. Trapetsiyaning D uchidan AC diogonaligacha bo'lgan masofani toping.
A)2,4 B)3 C)3,6 D)2

521. To'g'ri burchakli ABCD trapetsiyaning B va C burchaklari to'gri. AB = 4, BC = 3 va DC = 2. Trapetsiyaning D uchidan AC diogonaligacha bo'lgan masofani toping.
A)1,2 B)3 C)2,4 D)2

522. To'g'ri burchakli ABCD trapetsiyaning B va C burchaklari to'gri. AB=12, BC = 5 va DC= 6. Trapetsiyaning D uchidan AC diogonaligacha bo'lgan masofani toping.
A)$2\frac{4}{13}$ B)3 C)2.5 D) 2

523. ABC uchburchak uchlarining koordinatalari berilgan: A(8;12), B(-8;0) va C(-2;8). Uchburchak CM medianasi yotgan to'gri chiziq tenglamasini tuzing.
A) x + y = 6 B)x +y +6 = 0
C)x + 2y + 3 = 0 D)x – y – 6 = 0

524. ABC uchburchak uchlarining koordinatalari berilgan: A(6;-8), B(4;6) va C(-1;2). Uchburchak
CM medianasi yotgan to'gri chiziq tenglamasini tuzing.
A) x + 2y = 3 B)x +y +6 = 0
C)x + 2y + 3 = 0 D)x – y – 6 = 0

525. ABC uchburchak uchlarining koordinatalari berilgan: A(-6;8), B(10;0) va C(-3;6). Uchburchak CM medianasi yotgan to'gri chiziq tenglamasini tuzing.
A) 2x + 5y = 24 B)2x +5y +24 = 0
C)2x -5y + 24 = 0 D)2x – 5y – 24 = 0

526. ABC uchburchak uchlarining koordinatalari berilgan: A(10;4), B(6;4) va C(-5;0). Uchburchak
CM medianasi yotgan to'gri chiziq tenglamasini tuzing.
A) 4x + 13y +20 =0
B)4x +13y -20 = 0
C)4x -13y - 20 = 0
D)4x – 13y + 20 = 0

527. ABCD parallelogramning dioganallari O nuqtada kesishadi. $\overrightarrow{AC} = k \cdot \overrightarrow{AO}$ tenglik bajariladigan k soning qiymatinini toping.
A)2 B)3 C)1,5 D)2,5

528. $\vec{a}$ va $\vec{b}$ nolmas vektorlarning kollenearlik alomati ko'rsatilgan javobni toping.
A) $\vec{a} = k \cdot \vec{b},\ k \neq 0$ B) $\vec{a} \cdot \vec{b} = 0$
C) $\vec{c} = x \cdot \vec{a} + y \cdot \vec{b}$=0
D) $\vec{c} = x \cdot \vec{a} - y \cdot \vec{b} = 0$

529. $\vec{a}$ va $\vec{b}$ birlik vektorlarga qurilgan parallelogrammning dioganallari orasidagi burchakni toping.
A) 90° B) 60° C) 75° D) 80°

530. ABC uchburchakda D va E nuqtalar BC tomonni uchta teng qismlarga bo'ladi.(BD=DE=EC), F va G nuqtalar esa AD kesmani 3 ta teng qismlarga bo'ladi(AF=FG=GD). AFE uchburchakning yuzining ABC uchburchak yuziga nisbatini toping.
A)$\frac{1}{9}$ B) $\frac{1}{3}$ C) $\frac{1}{4}$ D) $\frac{1}{12}$

531. ABC uchburchakda D nuqta BC tomonni ikkita teng qismlarga bo'ladi.(BD=DC), E nuqta esa AC kesmani 2 ta teng qismlarga bo'ladi(AE=ED). ACE uchburchakning yuzining ABC uchburchak yuziga nisbatini toping.
A)$\frac{1}{4}$ B) $\frac{1}{3}$ C) $\frac{1}{9}$ D) $\frac{1}{12}$

532. ABC uchburchakda D nuqta BC tomonni ikkita teng qismlarga bo'ladi.(BD=DC), E nuqta esa AC kesmani 2 ta teng qismlarga bo'ladi(AE=ED). F nuqta esa EC kesmani ikkita teng qismlarga bo'ladi(FE=EC). AFE uchburchakning yuzining ABC uchburchak yuziga nisbatini toping.
A)$\frac{1}{8}$ B) $\frac{1}{3}$
C) $\frac{1}{4}$ D) $\frac{1}{12}$

533. ABCDEF muntazam oltiburchakda AC, CE, BF,FD dioganallar o'tkazilgan. AC va BF dioganallar L nuqtada CE va FD dioganallar K nuqtada kesishadi. Agar oltiburchak tomoni $2\sqrt{3}$ ga teng bo'lsa, LCKF to'rtburchakni yuzini toping.
A) $8\sqrt{3}$ B) $5\sqrt{3}$
C) $9\sqrt{3}$ D)$6\sqrt{3}$

534. ABCDEF muntazam oltiburchakda AC, CE, BF,FD dioganallar o'tkazilgan. AC va BF dioganallar L nuqtada CE va FD dioganallar K nuqtada kesishadi. Agar oltiburchak tomoni $2\sqrt{3}$ ga teng bo'lsa, CKF uchburchaknini yuzini toping.
A) $4\sqrt{3}$ B) $5\sqrt{3}$
C) $9\sqrt{3}$ D)$6\sqrt{3}$

535. ABCDEF muntazam oltiburchakda AC, CE, BF,FD dioganallar o'tkazilgan. AC va BF dioganallar L nuqtada CE va FD dioganallar K nuqtada kesishadi. Agar oltiburchak tomoni $2\sqrt{3}$ ga teng bo'lsa, LCK uchburchaknini yuzini toping.

A) $4\sqrt{3}$ B) $5\sqrt{3}$
C) $9\sqrt{3}$ D)$6\sqrt{3}$
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536. ABCDEF muntazam oltiburchakda AC, CE, BF,FD dioganallar o'tkazilgan. AC va BF dioganallar L nuqtada CE va FD dioganallar K nuqtada kesishadi. Agar oltiburchak tomoni $2\sqrt{3}$ ga teng bo'lsa, LK diagonal uzunligini toping.
A) 4 B) 5 C) 9 D)6

537. A(3;0) va B(-1;2) nuqtalardan o'tuvchi hamda markazi $y = x + 2$ to'gri chiziqda yotgan aylana tenglamasini toping.
A) $(x-3)^2 + (y-5)^2 = 25$
B) $(x-4)^2 + (y-5)^2 = 25$
C) $(x-3)^2 + (y-4)^2 = 25$
D) $(x-5)^2 + (y-3)^2 = 25$

538. ABC to'g'ri burchakli uchburchakning katetlari AB = 4, AC=6 va AN bissektrisa bo'lsa, ABN uchburchakning yuzini toping
A)4.8 B)3 C)4 D)4,2

539. ABC to'g'ri burchakli uchburchakning katetlari AB = 4, AC=6 va AN bissektrisa bo'lsa, ACN uchburchakning yuzini toping
A)7,2 B)6,3 C)4,8 D)4,2

540. ABC to'g'ri burchakli uchburchakning katetlari AB = 10, AC=15 va AN bissektrisa bo'lsa, ACN uchburchakning yuzini toping.
A)45 B)30 C)48 D)45

541. ABC to'gri burchakli uchburchakning katetlari AB = 10, AC=6 va AN bissektrisa bolsa, ABN uchburchakning yuzini toping.
A)30 B)48 C)42 D)45

542. ABC to'g'ri burchakli uchburchakning katetlari AB = 8, AC=12 va AN bissektrisa bo'lsa,ACN uchburchakning yuzini toping.
A)28,8 B)26.4 C)19,2 D)24,2

543. ABC to'g'ri burchakli uchburchakning katetlari AB = 8, AC=12 va AN bissektrisa bo'lsa, ABN uchburchakning yuzini toping
A)19.2 B)26.4
C)28.8 D)24,2

544. 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)13 B)14
C)11 D)12

545. Uchburchakning 6 va 8 ga teng medianalari o'zaro 90° burchak ostida kesishadi. Uchburchakning uchinchi tomoniga o'tkazilgan mediana uzunligini toping.
A)10 B)5
C)15 D)20

546. Uchburchakning 5 va 12 ga teng medianalari o'zaro 90° burchak ostida kesishadi. Uchburchakning uchinchi tomoniga o'tkazilgan mediana uzunligini toping.
A)13 B)5
C)15 D)20

547. Uchburchakning 15 va 8 ga teng medianalari o'zaro 90° burchak ostida kesishadi. Uchburchakning uchinchi tomoniga o'tkazilgan mediana uzunligini toping.
A)17 B)25 C)15 D)20

548. Uchburchakning 3 va 4 ga teng medianalari o'zaro 90° burchak ostida kesishadi. Uchburchakning uchinchi tomoniga o'tkazilgan mediana uzunligini toping.
A)5 B)4
C)6 D)8
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549. ABC to'g'ri burchakli uchburchakda E nuqta BC tomonini BE:EC = 3:1 kabi nisbatda bo'ladi. D nuqta esa AB gipotenuzada yotadi. Agar BD =8, AC=12 va $\angle BAC = 60°$ bo'lsa, BDE uchburchak yuzini toping.
A) $18\sqrt{3}$ B) 48
C) 36 D) $24\sqrt{3}$

550. Piramidaning tomonlari 5, 12, 13 ga teng bo'lgan uchburchakdan iborat. Piramidaning barcha ikki yoqli burchaklari 60° ga teng bo'lsa, uning hajmini toping.
A)$20\sqrt{3}$ B) $48\sqrt{3}$
C) $36\sqrt{3}$ C) $24\sqrt{3}$

551. Piramidaning tomonlari 13, 14, 15 ga teng bo'lgan uchburchakdan iborat. Piramidaning barcha ikki yoqli burchaklari 60° ga teng bo'lsa, uning hajmini toping.
A)$112\sqrt{3}$ B) $100\sqrt{3}$
C) $84\sqrt{3}$ C) $121\sqrt{3}$

552. Piramidaning tomonlari 3, 5, 6 ga teng bo'lgan uchburchakdan iborat. Piramidaning barcha ikki yoqli burchaklari 45° ga teng bo'lsa, uning hajmini toping.
Javob:

553. Piramidaning tomonlari 9, 40, 41 ga teng bo'lgan uchburchakdan iborat. Piramidaning barcha ikki yoqli burchaklari 45° ga teng bo'lsa, uning hajmini toping.
A) 240 B) 220 C) 180 D)192

554. Piramidaning tomonlari 4, 5, 6 ga teng bo'lgan uchburchakdan iborat. Piramidaning barcha ikki yoqli burchaklari 45° ga teng bo'lsa, uning hajmini toping.
A) 10 B) 40 C) 20 D) 30

555. Piramidaning tomonlari 3, 6,8 ga teng bo'lgan uchburchakdan iborat. Piramidaning barcha ikki yoqli burchaklari 45° ga teng bo'lsa, uning hajmini toping.
A)12 B) 32 C) 20 D) 30

556. Piramidaning tomonlari 8, 10, 12 ga teng bo'lgan uchburchakdan iborat. Piramidaning barcha ikki yoqli burchaklari 45° ga teng bo'lsa, uning hajmini toping.
A) 80 B) 90 C) 120 D)150

557. Asoslarining radiuslari $2\sqrt{2}$ va $11\sqrt{2}$ ga teng bo'lgan kesik konus va unga tengdosh silindrning balandliklari ham o'zaro teng bo'lsa , silindr asosining radiusini toping.
A) $7\sqrt{2}$ B) $6\sqrt{2}$
C) $10\sqrt{2}$ D) $8\sqrt{2}$

558. Asoslarining radiuslari $6\sqrt{3}$ va $12\sqrt{3}$ ga teng bo'lgan kesik konus o'rta kesim yuzini toping.
A) 243π B) $225\,\pi$
C) $300\,\pi$ D) $512\,\pi$

559. Qirralari soni 60 ga teng bo'lgan prizmaning nechta yog'I bor?
A)22 B)24 C)21 D)20

560. Qirralari soni 30 ga teng bo'lgan prizmaning nechta yog'i bor?
A)12 B)10 C)14 D)11

561. Qirralari soni 45 ga teng bo'lgan prizmaning nechta yog'i bor?
A)17 B)15 C)14 D)16

562. Konusning balandligi 24 ga o'q kesimining yuzi 72 ga teng. Uning hajmini toping
A)800π B)400π C)360π D)720π
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563. Konusning balandligi 24 ga o'q kesimining peremetri 72 ga teng. Konus asosining markazidan yon sirtigacha bo'lgan masofani toping.
A) $\frac{60}{13}$ B) $\frac{120}{13}$
C) $\frac{50}{13}$ D) $\frac{22}{13}$

564. Konus balandligi 6 ga ,o'q kesimining peremetri 36 ga teng. Uning hajmini toping.
A)128π B)200π
C)256π D)125π

565. Konusning balandligi 24 ga o'q kesimining yuzi 36 ga teng. Konus asosining markazidan yon sirtigacha bo'lgan masofani toping
A)4,8 B)5,2
C)9,6 D)6,4

566. Kubga ichki va tashqi chizilgan sharlar radiuslar nisbatini toping.
A) $\frac{\sqrt{3}}{3}$ B) $\frac{\sqrt{3}}{2}$
C) $\frac{\sqrt{3}}{9}$ D) $\frac{1}{2}$

567. Tomoni 2 ga teng bo'lgan kubning biror uchidan unga ichki chizilgan shargacha bo'lgan masofani toping.
A) $\sqrt{3}-1$ B) $\sqrt{3}-2$
D) $\sqrt{3}-1{,}5$ D) 1

568. Tomoni 4 ga teng bo'lgan kubning biror uchidan unga ichki chizilgan shargacha bo'lgan masofani toping.
A) $2\sqrt{3}-2$ B) $2\sqrt{3}-3$
D)$2\sqrt{3}-1{,}5$ D) 2

569. Tomoni 6 ga teng bo'lgan kubning biror uchidan unga ichki chizilgan shargacha bo'lgan masofani toping.
A) $3(\sqrt{3}-1)$ B) $3\sqrt{3}-2$
D) $3\sqrt{3}-1{,}5$ D) 3

570. Tomoni 10 ga teng bo'lgan kubning biror uchidan unga ichki chizilgan shargacha bo'lgan masofani toping.
A) $5(\sqrt{3}-1)$ B) $5\sqrt{3}-2$
D) $5\sqrt{3}-1{,}5$ D) 5

571. Tomoni 20 ga teng bo'lgan kubning biror uchidan unga ichki chizilgan shargacha bo'lgan masofani toping.
A) $10(\sqrt{3}-1)$ B) $10\sqrt{3}-2$
D) $10\sqrt{3}-1{,}5$ D) 10

572. Hajmi 125 ga teng kubning biror uchidan unga ichki chizilgan shargacha bo'lgan masofani toping.
A) $2{,}5(\sqrt{3}-1)$ B) $2\sqrt{3}-2$
D) $2\sqrt{3}-1{,}5$ D) 2,5

573. Hajmi 512 ga teng kubning biror uchidan unga ichki chizilgan shargacha bo'lgan masofani toping.
A) $4(\sqrt{3}-1)$ B) $4\sqrt{3}-2$
D) $4\sqrt{3}-1{,}5$ D) 5

574. Diogonali $14\sqrt{3}$ ga teng bo'lgan kubning biror uchidan unga ichki chizilgan shargacha bo'lgan masofani toping.
A) $7(\sqrt{3}-1)$ B) $7\sqrt{3}-2$
D) $7\sqrt{3}-1{,}5$ D) 3,5

575. Diogonali $16\sqrt{3}$ ga teng bo'lgan kubning biror uchidan unga ichki chizilgan shargacha bo'lgan masofani toping.
A) $8(\sqrt{3}-1)$ B) $7\sqrt{3}-2$
D) $8\sqrt{3}-1{,}5$ D) 8

576. Radiusi 10 ga teng yarim sharga asosining markazi bilan ustma-ust tushadigan konus tashqi chizilgan.Konusning balandligi qanday bo'lganda uning hajmi eng kichik bo'ladi.
Javob:

577. Tenglamaning ildizlari kvadratlari yig'indisini hisoblang.
$\frac{\sqrt{3+x^2}}{3+x} = 3-x$
Javob:

578. Tenglamaning ildizlari kvadratlari yig'indisini hisoblang.
$\frac{\sqrt{6+x^2}}{6+x} = 6-x$
Javob:

579. x ning qanday qiymatlarida $f(x) = |x^2 - 2x - 6sin^2x|$ funksiyaning hosilasi x=3 nuqtada mavjud?
Javob:

580. $|x^2+x+1| = a$ *tenglama* a ning qanday qiymatlarida yagona yechimga ega bo'ladi?
Javob:

581. a sonni 36 ga bo'lganda bo'linma n, qoldiq n^2 ga teng bo'lsa, a sonning eng katta qiymatini toping.
Javob:

582. Ko'paytuvchilarga ajrating:
$(a+b)^3-(a-b)^3-8b^3$
Javob:

583. $\begin{cases} 2ax+ay-2=0 \\ (a-1)x+(a+1)y=1 \end{cases}$ sistema a ning qanday qiymatida aniqmas sistema bo'ladi?
Javob:

584. $P(x)=(x+a+b)^3-3(x+a+b)+3$
Ko'phadni 2+x+a+b ko'phadga bo'lgandagi qoldiqni toping.
Javob:

585. To`g`ri to`rtburchakning ichidan olingan nuqtadan uning uchlarigacha masofalar ketma-ket 1, 5, 7 bo`lsa, to`rtinchi uchigacha bo`lgan masofani toping.

586. $6x^4-7x^3+px^2+3x+2$ ko'phad x^2-x+q ga bo'linsa, p va q ni toping.
Javob:

587. $(x+1)^n-x^n-1$ ko'phad x^2+x+1 ga bo'linsa, n ning barchaa natural qiymatlarini yig'indisini toping.
Javob:

588. $x^9+x^3+10x+5$ ko'phadni x^2+1 ga bo'lgandagi qoldiqni toping.
Javob:

589. $\sqrt[3]{6+\sqrt{\frac{847}{27}}}+\sqrt[3]{6-\sqrt{\frac{847}{27}}}ni$ hisoblang:
Javob:

590. $\overline{abc1}$ soni $\overline{2abc}$ dan 3 marta katta bo'lsa, $\overline{abc}$ sonni toping.
Javob:

591. $\overline{34x5y}$ soni 36 ga bo'linadigan nechta x va y juftligi bor?
Javob:

592. $x^2-63x+k=0$ tenglamaning ikkala ildizi ham tub son bo'ladigan k natural sonlar nechta?
Javob:

593. $f(x+1)=f(x)+2x+1$ va f(0)=1 bo'lsa, f(15) ni hisoblang.
Javob:

594. $f(x+1)=f(x)+2x+1$ va f(0)=-1 bo'lsa, f(19) ni hisoblang.
Javob:

595. N sonining natural bo`luvchilari ketma-ket yozib chiqildi. 6 chi va 20 chi o`rinda turgan sonning ko`paytmasi N ga teng bo`lsa, N ni toping.
Javob:

596. Teng yonli uchburchakning yon tomonlari a va asosi b ga teng bo'lsa, unga ichki va tashqi chizilgan aylana markazlari orasidagi masofani toping.
Javob:

597. 5 ta mandarin va 4 ta olmadan nechta mandarin va olma juftligini tuzish mumkin?
Javob:

598. Teng yonli uchburchakning asosi 8 ga va yon tomoniga tushirilgan medianasi 10 ga teng bo'lsa, yon tomonini toping.
Javob:

599. Katetlari a va b ga teng bo'lgan to'g'ri burchakli uchburchakning katta katetiga urinib shu katet qarshisidagi uch orqali o'tib, markazi gipotenuzada bo'lgan doiraning yuzini toping.
Javob:

600. Katetlari a va b ga teng bo'lgan to'g'ri burchakli uchburchakning katta katetiga urinib shu katet qarshisidagi uch orqali o'tib, markazi gipotenuzada bo'lgan aylananing uzunligini toping.
Javob:

601. Katetlari a va b ga teng bo'lgan to'g'ri burchakli uchburchakning katta katetiga urinib shu katet qarshisidagi uch orqali o'tib, markazi gipotenuzada bo'lgan doiraning radiusini toping.
Javob:

602. 3 ta yashikda 64,2 *kg* olma bor. Ikkinchi yashikda birinchisining 0,8 qismicha olma, uchinchi yashikda ikkinchisining 42,5% iga teng olma bor bo'lsa, uchinchi yashikda qancha olma bor?
Javob:

603. 3 ta yashikda 64,2 *kg* olma bor. Ikkinchi yashikda birinchisining 0,8 qismicha olma, uchinchi yashikda ikkinchisining 42,5% iga teng olma bor bo'lsa, ikkinchi yashikda qancha olma bor?
Javob:

604. 3 ta yashikda 64,2 *kg* olma bor. Ikkinchi yashikda birinchisining 0,8 qismicha olma, uchinchi yashikda ikkinchisining 42,5% iga teng olma bor bo'lsa, birinchi yashikda qancha olma bor?
Javob:

605. Uchburchakning uchta tomoni a,, ga teng bo'lsa, unga ichki chizilgan aylana radiusini toping.
Javob:

606. Uchburchakning uchta tomoni a,, ga teng bo'lsa, unga tashqi chizilgan aylana radiusini toping.
Javob:

607. $\frac{x^3+27}{x+3}$ ifodaning eng kichik butun qiymatini toping.
Javob:

608. Prizma bu – …
Javob:

609. Teng yonli uchburchakning asosi a ga va yon tomoni b ga teng bo'lsa, asosidagi burchakning kosinusini toping.
Javob:

610. Teng yonli uchburchakning asosi a ga va yon tomoni b ga teng bo'lsa, asosidagi burchakning sinusini toping.
Javob:

611. Teng yonli uchburchakning asosi a ga va yon tomoni b ga teng bo'lsa, asosidagi burchakning tangensini toping.
Javob:

612. Teng yonli uchburchakning asosi a ga va yon tomoni b ga teng bo'lsa, asosidagi burchakning kotangensini toping.
Javob:

613. Teng yonli uchburchakning asosi a ga va yon tomoni b ga teng bo'lsa, uchidagi burchakning kosinusini toping.
Javob:

614. Teng yonli uchburchakning asosi a ga va yon tomoni b ga teng bo'lsa, uchidagi burchakning sinusini toping.
Javob:

615. Teng yonli uchburchakning asosi a ga va yon tomoni b ga teng bo'lsa, uchidagi burchakning tangensini toping.
Javob:

616. Teng yonli uchburchakning asosi a ga va yon tomoni b ga teng bo'lsa, uchidagi burchakning kotangensini toping.
Javob:

617. Prizmaning asosi tomonlari 5 va 6 bo'lgan hamda o'tkir burchagi 45° bo'lgan parallelogrammdan iborat. Agar prizmaning yon qirrasi 4 ga teng va u asos tekisligi bilan

30° burchak tashkil qilsa, prizma hajmini toping.
Javob:
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618. Prizmaning asosi tomonlari 5 va 6 bo'lgan hamda o'tkir burchagi 45° bo'lgan parallelogrammdan iborat. Agar prizmaning yon qirrasi 4 ga teng va u asos tekisligi bilan 30° burchak tashkil qilsa, yon sirtini toping.
Javob:

619. Prizmaning asosi tomonlari 5 va 6 bo'lgan hamda o'tkir burchagi 45° bo'lgan parallelogrammdan iborat. Agar prizmaning yon qirrasi 4 ga teng va u asos tekisligi bilan 30° burchak tashkil qilsa, to'la sirtini toping.
Javob:

620. Prizmaning asosi tomonlari 5 va 6 bo'lgan hamda o'tkir burchagi 45° bo'lgan parallelogrammdan iborat. Agar prizmaning yon qirrasi 4 ga teng va u asos tekisligi bilan 30° burchak tashkil qilsa, balandligini toping.
Javob:

621. Teng yonli trapetsiyaning asoslari 30 va 24 ga teng. Bu trapetsiyaning diagonallari o'zaro perpendikulyar bo'lsa, uning yuzini toping.
Javob:

622. Bir burchagi 60° bo'lgan to'g'ri burchakli uchburchakka tomoni a ga teng bo'lgan romb shunday ichki chizilganki, 60° li burchak ular uchun umumiy, rombning barcha uchlari rombning tomonlarida yotadi. Uchburchakning yuzini toping.
Javob:

623. Bir burchagi 60° bo'lgan to'g'ri burchakli uchburchakka tomoni a ga teng bo'lgan romb shunday ichki chizilganki, 60° li burchak ular uchun umumiy, rombning barcha uchlari rombning tomonlarida yotadi. Uchburchakning perimetrini toping.

624. Bir burchagi 60° bo'lgan to'g'ri burchakli uchburchakka tomoni a ga teng bo'lgan romb shunday ichki chizilganki, 60° li burchak ular uchun umumiy, rombning barcha uchlari rombning tomonlarida yotadi. Uchburchakning tomonlarini toping.
Javob:

625. Bir burchagi 30° bo'lgan to'g'ri burchakli uchburchakka tomoni a ga teng bo'lgan romb shunday ichki chizilganki, 30° li burchak ular uchun umumiy, rombning barcha uchlari rombning tomonlarida yotadi. Uchburchakning yuzini toping.
Javob:

626. Bir burchagi 30° bo'lgan to'g'ri burchakli uchburchakka tomoni a ga teng bo'lgan romb shunday ichki chizilganki, 30° li burchak ular uchun umumiy, rombning barcha uchlari rombning tomonlarida yotadi. Uchburchakning perimetrini toping.
Javob:

627. Bir burchagi 30° bo'lgan to'g'ri burchakli uchburchakka tomoni a ga teng bo'lgan romb shunday ichki chizilganki, 30° li burchak ular uchun umumiy, rombning barcha uchlari rombning tomonlarida yotadi. Uchburchakning tomonlarini toping.
Javob:

628. Bir burchagi 45° bo'lgan to'g'ri burchakli uchburchakka tomoni a ga teng bo'lgan romb shunday ichki chizilganki, 45° li burchak ular uchun umumiy, rombning barcha uchlari rombning tomonlarida yotadi. Uchburchakning yuzini toping.
Javob:
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629. Bir burchagi 45° bo'lgan to'g'ri burchakli uchburchakka tomoni a ga teng bo'lgan romb shunday ichki chizilganki, 45° li burchak ular uchun umumiy, rombning barcha uchlari rombning tomonlarida yotadi. Uchburchakning perimetrini toping.
Javob:

630. Bir burchagi 45° bo'lgan to'g'ri burchakli uchburchakka tomoni a ga teng bo'lgan

romb shunday ichki chizilganki, 45° li burchak ular uchun umumiy, rombning barcha uchlari rombning tomonlarida yotadi. Uchburchakning tomonlarini toping.
Javob:

631. Bir nuqtadan aylanaga ikkita urinma o'tkazilgan. Har bir urinmaning uzunligi 15 *sm*, urinish nuqtalari orasidagi masofa 24 *sm*. Shu aylananing uzunligini toping.
Javob:

632. Quyidagi tasdiqlarning qaysilari to'g'ri?
1) *Trapetsiyaning o'rta chizig'i uning dioganallarini teng ikkiga bo'ladi;*
2) *Agar teng yonli trapetsiyaning dioganali uning katta asosidagi burchagi bissektrissasi bo'lsa, u holda katta asos yon tomonga teng bo'ladi;*
3) *Agar teng yonli trapetsiyaning dioganali uning kichik asosidagi burchagi bissektrissasi bo'lsa, u holda katta asos yon tomonga teng bo'ladi.*
Javob:

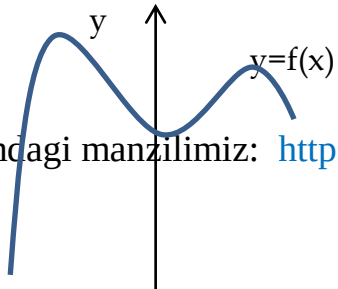
633. $x^{30}+x^{18}+x^7+1$ ko'phadni x^6-x^2 ga bo'lgandagi qoldiqni toping.
Javob:

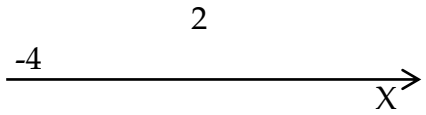
634. $g(x)=x-3$ va $f(g(x))=3x^2-7x+5$ bo'lsa, $f'(g(x))=?$
Javob:

635. $(x-4)^3+(x-4)^2+(x-4)\cdot(x-3)+(x-3)^2+(x-3)^3=6$ tenglamani yeching:
Javob:

636. Bir nuqtadan aylanaga ikkita urinma o'tkazilgan. Har bir urinmaning uzunligi 20 *sm*, urinish nuqtalari orasidagi masofa 24 *sm*. Aylana uzunligini toping.
Javob:

637. $y=f(x)$ funksiya grafigi berilgan. $\int_{-4}^{0}|f(x)|^2\cdot f'(x)dx$ integralni toping.





Javob:

638. $\begin{vmatrix}2018 & 2019\\ 2020 & 2021\end{vmatrix}$ determinantni hisoblang.
Javob:

639. n sonining natural bo'luvchlari ketma – ket yozib chiqildi. 6 – va 20 – o'rinda turgan sonlarning ko'paytmasi n ga teng bo'lsa, n ning natural bo'luvchilari nechta?
Javob:

640. To'g'ri burchakli uchburchaknng gipotenuzasida nuqta olingan va shu nuqtadan katetlargacha bo'lgan masofalar teng. Bu nuqta gipotenuzani 30 va 40 *sm* li kesmalarga ajratadi. Uchburchakning yuzini toping.
Javob:

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641. $y=|x^2+2x-3|-|x+1|$ bo'lsa, $f'(1)=?$
Javob:

642. $A(1;3;5)$ va $B(-2;3;5)$ nuqtalar berilgan. $C(x;0;0)$ nuqta A va B nuqtalardan bir xil uzoqlikda bo'lsa, $x=?$
Javob:

643. ABC uchburchakda $\angle C=90°$, $\cos B=5/13$, $=39$ bo'lsa, $AC=?$
Javob:

644. $(-3;-4)$ nuqtadan Ox o'qigacha bo'lgan masofani toping.
Javob:

645. $(-3;-4)$ nuqtadan Oy o'qigacha bo'lgan masofani toping.
Javob:

646. Integralni hisoblang:

$\int_1^4 \frac{1}{x^2} dx$
Javob:

647. $(m-2)x^2 - 8x + 5$ ifoda x ning barcha qiymatlarida -2 dan kichik bo'lsa, m nit toping.
Javob:

648. $(log_{11}x)^2 \leq 1$ tengsizlikning eng katta va eng kichik yechimlarining ko'pytmasini toping.
Javob:

649. x ning qanday qiymatlarida $f(x) = x^2 - 3x + 1$ funksiyaning hosilasi o'zidan kichik bo'ladi?
Javob:

650. Temirning 72% i kesib olindi. Qolgan qismining og'irligi 64,2 kg bo'lsa, temirning kesib olingan qismining og'irligini toping.

651. cos(пx)=1 tenglamaning (1;6) oraliqdagi ildizlari ko'paytmasini toping.
Javob:

652. $|x-3| < 4$ tengsizlikning butun ildizlarini toping.
Javob:

653. Koordinatalar tekisligida $|x| + |y-1| \leq 4$ tengsizlikning yechimlari hosil qilgan soha yuzini toping.
Javob:

654. Koordinatalar tekisligida $|x+3| + |y-1| \leq 2$ tengsizlikning yechimlari hosil qilgan soha yuzini toping.
Javob:

655. $(2x-1)^{10} \cdot (x+1)^2$ ko'phadni koeffitsiyentlari yig'indisini toping.
Javob:

656. 10 kishi tennis musobaqasida oltin, kumush va bronza medallarini necha xil usulda olishi mumkin?
Javob:

657. 5, 9, 13, … ketma – ketlikning nechta hadi yig'indisi 13705 bo'ladi?
Javob:

658. $\overline{x714y5}$ soni 55 ga bo'linsa, x=?
Javob:

659. Soddalashtiring: tgα+ctgα+tg3α+ctg3α=?

660. R radiusli aylanaga trapetsiya ichki chizilgan. Trapetsiyaning pastki asosi qolgan tomonlaridan ikki marta 2 marta katta. Trapetsiyaning yuzini toping.
Javob:

661. Hisoblang: $\int_4^{16} \sqrt{x}\, dx$
Javob:

662. $y = 5 - 3^{x-2}$ funksiyaning qiymatlar sohasini toping.
Javob:

663. Muntazam uchburchakli $ABCA1B1C1$ prizmaaning asosi tomoni 1 ga teng. $|\overrightarrow{CE} - \overrightarrow{CB_1}|$ ni toping.
Javob:

664. 5 ta olma, 4 ta nok, 2 ta behidan bittadan olib nechta guruhlash tuzish mumkin?
Javob:

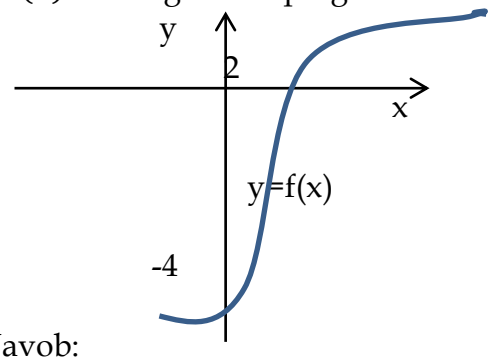
665. $log_5^2(5x-4) = 5 \cdot log_5(5x-4)$ tenglamani yeching.
Javob:

666. Agar $(x-5)^{10} + (2x-9)^5 = 0$ bo'lsa, 10-x ni hisoblang.
Javob:

667. Hisoblang: $\sqrt{12-\sqrt{80}} - \sqrt{12+\sqrt{80}}$
Javob:

668. Kubning diagonali va u bilan kesishmaydigan qirrasi orasidagi masofa 5 ga teng bo'lsa, kubning hajmini toping.
Javob:

669. $y=f(x)$ funksiya grafigi berilgan. $\int_0^2 |f(x)|^3 \cdot f'(x)dx$ integralni toping.



Javob:

670. To'g'ri burchakli uchburchaknng gipotenuzasida nuqta olingan va shu nuqtadan katetlargacha bo'lgan masofalar teng. Bu nuqta gipotenuzani $\frac{100}{3}$ va $\frac{50}{3}$ sm li kesmalarga ajratadi. Uchburchakning katta katetini toping.
Javob:

671. $A=\{x: |x-3|<4, x\in\mathbb{N}\}$ to'plamning elementlari sonini toping.
Javob:

672. Asosi muntazama uchburchakdan tashkil topgan piramidani apofemasi 15 ga, balandligi 9 ga teng bo'lsa, piramidaning hajmini toping.
Javob:

673. $\cos140°+\cos120°+\cos20°$ ni hisoblang.
Javob:

674. $y=2^x-2$ funksiyaning qiymatlar soxasini toping.
Javob:

675. $(a-7b)^2-42b+6a$ ifodaning eng kichik qiymatini toping.
Javob:

676. $ABCD$ trapetsiyaning asoslari AD=30 va BC=24 hamda AB=12,$\angle A$=60°. Diagonallari O nuqtada kesishadi. COD uchburchak yuzini toping.
Javob:

677. Konusning yasovchisi 15 ga teng. Yon sirtining yuzi 135π ga teng bo'lsa, shu konusga ichki chizilgan shar hajmini toping.
Javob:

678. $\int_{-3}^{1} \frac{1}{x^3}dx$ integralni hisoblang.
Javob:

679. To'g'ri burchakli trapetsiyaning diagonali yon tomoniga teng. Balandligi 6 ga, yon tomoni 12 ga teng bo'lsa, o'rta chizig'ini toping.
Javob:

680. Koordinatalar tekisligida $|x+3|+|y+1|\le 6$ tengsizlikning yechimlari tashkil etgan sohaning yuzini toping.
Javob:

681. $1^3+2^3+3^3+\cdots+12^3$ son qaysi sonning kvadrati bo'ladi?
Javob:

682. $ABCD$ qavariq to'rtburchakka aylana ichki chizilgan. AB=3, BC=4, CD=5 bo'lsa, AD=?
Javob:

683. Yon tomoni 17 ga teng bo'lgan teng yonli trapetsiyaga diametri 15 ga teng bo'lgan aylana ichki chizilgan. Trapetsiyaning asoslarini toping.
Javob:

684. Agar $\begin{cases} \operatorname{tg}\alpha+\operatorname{tg}\beta=4 \\ \operatorname{ctg}\alpha+\operatorname{ctg}\beta=2 \end{cases}$ bo'lsa, $\operatorname{tg}(\alpha+\beta)$=?
Javob:

685. $ABCD$ paralleleogrammning BC tomonida E nuqta olingan. A burchak bissektrisasi E nuqtada BC tomon bilan kesishadi. AB=9, AD=15 bo'lsa, BE va EC ni toping.
Javob:

686. $y=\left(\frac{2}{3}\right)^{-2+x^2}$ funksiyaning qiymatlar sohasini toping.
Javob:

687. $\int(kx+b)^{p+4}dx$ integralni hisoblang.
Javob:

688. 300 dan keyin keladigan to'rtinchi tub sonni 2 ga bo'lgandagi qoldiqni toping.
Javob:

689. $|x^2-11x+24|=|x^2-12|$ tenglamaning natural ildizlari yig'indisining eng katta ildizga nisbatini toping.
Javob:

690. tg^2x+ctg^2x ning eng kichik qiymatini toping.
Javob:

691. $y=ax^2-bx+c$ funksiyaning grafigi 1 –, 2 –, 4 – choraklardan o'tishi uchun a,, lar qanday munosabatda bo'lishi kerak?
Javob:

692. Qirrasi 50 *sm* ga teng kubning ichini qirrasi 5 *sm* ga teng kubchalar bilan to'ldirish uchun nechta kubcha kerak bo'ladi?
Javob:

693. To'g'ri burchakli uchburchakning gipotenuzasi 6 ga, ichki chizilgan aylana radiusi 1 ga teng bo'lsa, uchburchakning perimetrini toping.
Javob:

694. Muntazam ko'pburchakka ichki va tashqi chizilgan aylanalar radiusilari R va r, tomoni a ga teng bo'lsa, $\frac{(R-r)(R+r)}{a^2}$ ni toping.
Javob:

695. $\int\sin 3x dx$ ni toping.
Javob:

696. $x\cdot\sqrt{x^2-10}\geq x^2-6$ tengsizlikni qanoatlantiruvchi butun sonlarning yig'indisini toping.
Javob:

697. 6 xonali son berilgan. Uning birinchi raqami 1 ga teng. Shu sonning birinchi raqamini uning oxiriga ko'chirsak, berilgan sondan uch marta katta son hosil bo'ladi. U qaysi son?
Javob:

698. $\sin 54°\cdot\sin 18°$ ni hisoblang?
Javob:

699. Teng yonli to'g'ri burchakli uchburchakka ichki chizilgan aylana radiusi r ga teng bo'lsa, uning yarim perimetrini toping.
Javob:

700. $|x|+a-3\geq 0$ tengsizlik x ning barcha qiymatlarida o'rinli bo'lsa, a=?
Javob:

701. $y=-2,6x+b$ funksiyaning grafigi $C(1;12)$ nuqtadan o'tsa, b ni toping.
Javob:

702. $A(-a-2;a-5)$ nuqta koordinatalar tekisligining 4 – choragida joylashgan bo'lsa, a=?
Javob:

703. n ta uchi bo'lgan prizmaning nechta diagonal kesimi mavjud?
Javob:

704. Alpinist birinchi kuni 800 *m* balandlikka chiqdi. Qolgan kunlari oldingi kunga qaraganda 25 *m* kam balandlikka chiqdi. U 6300 *m* ga necha kunda ko'tarilgan?
Javob:

705. ABC uchburchak balandliklari kesishish nuqtasi H, ichki chizilgan aylana markazi esa I. Agar $\angle A=40°$, $\angle B=75°$ ga teng bo'lsa, IAH burchakni toping.
Javob:

706. $1^3+2^3+3^3+\cdots+10^3$ son qaysi sonning kvadrati?
Javob:

707. 6 ni 7 ga bo'lganda hosil bo'ladigan sonning 2018 – o'rnida turgan raqamini toping.
Javob:

708. $x^2-7|x|+10=a$ tenglama a ning qanday qiymatida 3 ta yechimga ega bo'ladi?
Javob:

709. To'g'ri burchakli uchburchakning o'tkir burchagi bissektrisasi qarshisidagi katetni 2 va 3 ga teng kesmalarga ajratadi. Uchburchakning yuzini toping.
Javob:

710. Agar $f^3(x)$ va $\frac{1}{f(x)}$ funksiyalarning x=1 nuqtadagi hosilalari 9 va -3 bo'lsa, f'(1) ni hisoblang.
Javob:

711. $1+2+4+\dots+2^{22}$ ni hisoblang.
Javob:

712. Tenglamani yeching:
$$\sqrt{x+\sqrt{x+\sqrt{x+\cdots}}}=\sqrt{x\sqrt{x\sqrt{x\dots}}}$$
Javob:

713. $y=|x^2-6x-1|$ funksiyaning eng kichik qiymatini toping.
Javob:

714. Aniqmas integralni hisoblang:
$\int x\cdot\ln x dx$
Javob:

715. Tenglamani yeching:
$|\sin x+\cos x|=\sqrt{2}\sin 2x$
Javob:

716. Diyora dugonasining telefon raqamining oxirgi raqamini esidan chiqarib qo'ydi. Uning bir urinishda unutilgan raqamni topish imkonining ehtimoli nimaga teng?
Javob: 110

717. $\frac{1}{p}$ sof davriy kasrning 2018 – raqami 2 ga teng bo'lsa, $\frac{p-1}{p}$ ning
2018 – raqamini toping.
Javob: 7

718. Tomoni a ga teng bo'lgan kvadrat shunday qirqilganki, natijada eng katta yuzaga ega bo'lgan muntazam sakkizburchak hosil bo'lgan. Sakkizburchakning yuzini toping.
Javob:

719. $y=|x^2-6x-1|$ funksiyaning eng kichik qiymatini toping.
Javob:

720. $|3+2x-x^2|=a$ tenglama a ning qanday qiymatlarida 3 ta yechimga ega?
Javob:

721. $\frac{x}{10}+\frac{y}{12}=0{,}15$ to'g'ri chiziqning Oy o'qi bilan hosil qilgan burchagi α bo'lsa, $tg\alpha+ctg\alpha$ ni toping.
Javob:

722. $y=x^x$ funksiyaning hosilasini toping.
Javob:

723. Quti sirtini 75%ini bo'yash uchun 450 gr bo'yoq ishlatildi. Quti sirtini 100% ini bo'yash uchun necha kg bo'yoq ishlatiladi.
Javob:

724. $y=ax^2-bx+c$ kvadrat funksiyaning grafigi 1 – va 2 – choraklarda bo'lishi uchun a va b sonlar qanday munosabatda bo'lishi kerak?
Javob:

725. $y=\ln(6\sin x-8\cos x)$ funksiyaning qiymatlari sohasini toping.
Javob:

726. Teng yonli to'g'ri burchakli ABC uchburchak berilgan.
AB gipotenuzada yotuvchi M va N nuqtalar shunday olinganki, $AM=AC$, $BN=BC$, $\angle MCN=?$

Javob:

727. Tomoni 18 ga teng bo'lgan $ABCD$ kvadrat berilgan. M n uqta BC tomonni teng ikkiga, N nuqta DC tomonni 2:1 nisbatda bo'ladi. $ABMN$ to'rtburchak yuzini toping.
Javob:

728. $f^2(x)$ va $\frac{1}{f(x)}$ funksiyalarning x=10 nuqtadagi hosilalari mos ravishda
4 va -2 ga teng bo'lsa, $f'(10)$ ni toping.
Javob:

729. $x^2+y^2-12|x|-12|y|+63\leq 0$ tengsizlikning yechimlari hosil qilgan sohaning yuzini toping.
Javob:

730. a va b ni 4 ga bo'lganda har xil qoldq qolsa, a^2-b^2 ni 8 ga bo'lganda qanday qoldiqlar qolishi mumkin?
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731. $y=x(x-2)(x-4)(x-6)+2015$ funksiya eng kichik qiymatiga ega bo'ladigan x larning yig'indisini toping.
Javob:

732. Oddiy kasr qachon noto'g'ri kasr bo'ladi?
Javob:

733. ABC uchburchakda AC=15, BC=41, AB=52 ga teng. AB tomonda D nuqta shunday olinganki $AD:DB$=15:37. CD=?
Javob:

734. $1\cdot2+2\cdot3+3\cdot4+\cdots+99\cdot100-1^2-2^2-3^2-\cdots-100^2$ ni hisoblang.
Javob:

735. ABC uchburchak PQK uchburchakka teng. PQK uchburchakning burchaklari 40°,60°,80° ga teng. ABC uchburchakning burchaklarini toping.
Javob:

736. Uchta son geometrik progressiya hosil qiladi. Ularning yig'indisi 19 ga, ko'paytmasi 216 ga teng. Bu hadlar kvadratlarining yig'indisini toping.
Javob:

737. 5 ta juft raqamdan foydalanib nechta 5 xonali son hosil qilish mumkin?
Javob:2500

738. 7 ta bola izma – iz bir qatorda turibdi. Ularning turgan o'rinlarini almashtirib nechta qator tuzish mumkin?
Javob:

739. 8 ni 7 ga bo'lganda hosil bo'ladigan sonning 2018 – o'rnida turgan raqamini toping.
Javob:

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740. ax^3+bx^2+1 ko'phad x^2+x-1 ga bo'linsa, a va b butun sonlarning yig'indisini toping.
Javob:

741. $p(x)=x^2-mx-4$, $p(-1)=4$ bo'lsa, $p(-2)$=?
Javob:

742. $y=g(x)\cdot\frac{1}{2\sqrt{x}}$; $g(x)=2x+3$ y funksiyaning hosilasini toping.
Javob:

743. Bir necha xonali natural sonning oxiriga ikkita nol raqami yozildi va hosil bo'lgan sondan dastlabki son ayrildi. Hosil bo'lgan son quyidagilarning qaysi biriga bo'linmaydi?
1) 9; 2) 3; 3) 11; 4) 55.

744. $2^x-2^{-x}+4=a^2-5a$ tenglama yechimga ega bo'lmaydigan a ning qiymatlarini toping.
Javob:

745. Uchburchakning tomonlari 7, 8, 9 ga teng. Katta tomoniga yopishgan burchaklarining bissektrisalarini o'tkazishdan uchta uchburchak va bitta to'rtburchak ajraladi. Uchburchakning uzunligi 7 ga teng bo'lgan tomoniga yopishgan uchburchakning yuzini toping.

Javob:

746. Qutida 45 ta shar bor. Ulardan 17 tasi oq bo'lib, 2 ta oq bo'lmagan shar yo'qolib qoldi. Qutidan bittalab olinganda oq sharning tushish ehtimolini toping.
Javob:

747. $P(x)$– ko'phad. $(x-1)\cdot P(x)=(x+5)\cdot P(x-1)$ bo'lsa, $P(x)$ ni toping.

748. Teng yonli uchburchakning uchidagi burchagi 120° ga, asosi 6 ga teng. Balandliklarining kesishish nuqtasidan asosiga parallel holda o'tuvchi tekislik atrofida aylantirishdan hosil bo'lgan jismning hajmini toping.
Javob:

749. $\cos 20°-2\cos 40°-\cos 80°$ ni hisoblang.
Javob:

750. $x^2\cdot 4^{\sqrt{x}}<4^{\sqrt{x}+1}$ tengsizlikni yeching.
Javob:

751. $\frac{\arcsin\frac{8}{17}-arctg\frac{1}{4}}{arcctg\ 4}$ ni hisoblang.
Javob:

752. 6 ta katakni 2 ta qizil, 1 ta oq, 1 ta ko'k, 1 ta qora, 1 ta yashilga necha xil usul bilan bo'yash mumkin?
Javob:

753. $y=x^2+3x+1$ funksiyaning hosilasi o'ziga teng bo'lganda, x ni toping.
Javob:

754. Muntazam oltiburchakli prizmaning yon yog'ining yuzi Q ga teng. Shu prizmaning eng katta diagonal kesimi yuzini toping.
Javob:

755. Muntazam oltiburchakli prizmaning yon yog'ining yuzi Q ga teng. Shu prizmaning eng kichik diagonal kesimi yuzini toping.
Javob:

756. $f(x)=x^2\cdot ctgx\cdot \ln x$ bo'lsa, $f'(1)$ ni toping.
Javob:

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757. To'g'ri burchakli parallelepiped asosi tomonlari 8 va 15 ga teng. Agar uning diagonali asos bilan 45° li burchak tashkil etsa, uning hajmini toping.
Javob:

758. $y=\sqrt{kx+l}$ funksiyaning hosilasini toping.
Javob:
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759. $y=\frac{a^{g(x)}+c}{\ln a}$ funksiyaning hosilasini toping.
Javob:

760. Ikkita konsentrik aylanalardan kattasining uzunligi 40 *sm* ga teng bo'lgan vatari kichigiga urinadi. Agar halqaning kengligi 10 *sm* bo'lsa, katta aylananing radiusini toping.
Javob:

761. Ikkita konsentrik aylanalardan kattasining uzunligi 40 *sm* ga teng bo'lgan vatari kichigiga urinadi. Agar halqaning kengligi 10 *sm* bo'lsa, kichik aylananing radiusini toping.
Javob:
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762. Ikkita konsentrik aylanalardan kattasining uzunligi 40 *sm* ga teng bo'lgan vatari kichigiga urinadi. Agar halqaning kengligi 10 *sm* bo'lsa, halqaning yuzini toping.
Javob:

763. Muntazam oltiburchak ichidan ixtiyoriy nuqta olingan. Bu nuqtadan tomonlargacha bo'lgan masofalar yig'indisi 18 ga teng bo'lsa, oltiburchak yuzini toping.
Javob:
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764. Muntazam oltiburchak ichidan ixtiyoriy nuqta olingan. Bu nuqtadan tomonlargacha

bo'lgan masofalar yig'indisi 18 ga teng bo'lsa, oltiburchak perimetrini toping.
Javob:

765. Parallelogrammning perimetri 120 ga, o'tkir burchagi 60° ga teng. Diagonali o'tmas burchagini 3:1 nisbatda bo'lsa, uning yuzini toping.
Javob:

766. Bir odamning oddiy yilning 7 – sanasida tug'ilish ehtimolini toping.
Javob:

767. $f(2x-3)=2x-2$ bo'lsa, $f(f(5))$ ni toping.
Javob:

768. Trapetsiyaning asoslari 24 va 30 ga, asosidagi burchaklaridan biri 60° ga teng. Yon tomonlari davom ettirilganda 90° burchak ostida kesishsa, trapetsiyaning yuzini toping.
Javob:

769. Kubni nechta simmetrik bo'lakka bo'lish mumkin?
Javob:

770. Rombning diagonallari a va $a\sqrt{3}$ bo'lishi uchun rombning burchaklari necha gradusdan bo'lishi kerak?
Javob:

771. To'g'ri burchakli uchburchakka ichki chizilgn aylana radiusi 3 ga, bir kateti esa 10 ga teng. Shu uchburchakka tashqi chizilgan aylana radiusini toping.
Javob:

772. Asosidagi burchagi 75° ga, yon tomoni uzunligi esa $\sqrt{2+\sqrt{3}}$ ga teng bo'lgan teng yonli uchburchakning asosini toping.
Javob:

773. $(x^2+2x)(x^2+2x-3)\geq 40$ tengsizlikni qanoatlantirmaydigan eng katta va eng kichik butun yechimlarini yig'indisini toping.
Javob:

774. $\int_3^5 \frac{x^2-4x+5}{x-2}dx$ inregralni hisoblang.
Javob:

775. Qutida "*kombinatorika*" so'zini hosil qiluvchi barcha harflar bor. Ixtiyoriy tanlashda "*k*" harfi chiqish ehtimolligini toping.
Javob:

776. Konsertga boshlovchilikka 4 o'g'il bola va 2 ta qiz boladan bitta qiz va bitta yigitni tanlash uchun nechta usul bor?
Javob:

777. $y=3x^2$ funksiya grafigini 4 birlik yuqoriga, 2 birlik o'ngga siljitish (parallel ko'chirish) natijasida hosil bo'lgan funksiyani toping.
Javob:

778. $(\text{tg } 5°+\text{tg } 3°)\cdot\text{ctg } 8°+(\text{tg } 5°-\text{tg } 3°)\cdot\text{ctg } 2°$ ifodani soddalashtiring.
Javob:

779. 9 ta xatni 9 xil joyga 2 tadan necha xil usul bilan tarqatish mumkin.
Javob:

780. $\sqrt{1+x^2-x}+\sqrt{1+x^2-\sqrt{3}x}=\sqrt{2}$ tenglamani yeching.
Javob:

781. $\int \frac{1}{1+x^4}dx$ integralni hisoblang.
Javob:

782. Aylanaga uchta vatar o'tkazilgan. Har bir vatar juft – juft bo'lib kesishadi va har bir vatar teng uchta qismga ajraladi. Bir vatarning uzunligi 9 ga teng bo'lsa, aylananing radiusini toping.
Javob:

783. $f(x)+x=2\cdot f(2x)$ bo'lsa, $f(x)=?$

Javob:

784. $\sin\frac{\pi}{4}\cdot\sin\frac{3\pi}{4}\cdot\sin\frac{5\pi}{4}\cdot\ldots\cdot\sin\frac{31\pi}{4}$ ni hisoblang.
Javob:

785. $y=\frac{15}{x-5}+\frac{|7x^2+2x-5|}{2}$ funksiya nechta nuqtada hosilaga ega emas?
Javob:

786. $22^{22}+44^{44}+66^{66}+88^{88}$ ifodani 5 ga bo'lgandagi qoldiqni toping.
Javob:

787. Argumentning qanday qiymatida $y=\frac{5x}{2|x+1|-5}$ funksiyaning qiymati 2 ga teng bo'ladi?
Javob:

788. $27\sqrt{-x}-x^2\geq 0$ tengsizlikni yeching.
Javob:

789. $y=log_2(x^2-4x+20)$ funksiyaning eng kichik qiymatini toping.
Javob:

790. 400 dan katta dastlabki 3 ta tub sonning yig'indisini toping.
Javob:

791. $(x+3)^{x^2-16}>1$ tengsizlikni yeching.
Javob:

792. $y=-x^2+6x-5; y=-x^2+4x-3$ $y=3x-15$ chiziqlar bilan chegaralangan soha yuzini toping.
Javob:

793. $(x+3)^{x^2-16}\leq 1$ tengsizlikni yeching.
Javob:

794. $\overline{ab}+\overline{ba}+\overline{aa}+\overline{bb}=286$ bu yerda $\overline{ab},\overline{ba},\overline{aa},\overline{bb}$ lar ikki xonali sonlar bo'lsa, $\overline{ab}$ ni toping.
Javob:

795. $\overline{ab}+\overline{ba}+\overline{aa}+\overline{bb}=286$ bu yerda $\overline{ab},\overline{ba},\overline{aa},\overline{bb}$ lar ikki xonali sonlar bo'lsa, $\overline{ba}$ ni toping.
Javob:

796. $2+sinx+ctg\left(\frac{3\pi}{4}-\frac{x}{2}\right)\cdot cosx$ ifodani soddalashtiring.
Javob:

797. $(8x-25)^{17}+(2x+5)^{34}=0$ tenglama ildizlarining o'rta arifmetigini toping.
Javob:

798. $1-sin4x+ctg\left(\frac{3\pi}{4}-2x\right)\cdot cos4x$ ifodani soddalashtiring.
Javob:

799. $\int_{-\frac{\pi}{2}}^{\pi}(sinx+cosx)^2dx+\frac{\pi}{2}$ ni hisoblang.
Javob:

800. $(x+3)^{x^2-16}<1$ tengsizlikning -3 katta eng kichik va eng kata ildizlari yig'indisini toping.
Javob:

801. $A(-2;3)$, $B(2;3)$ va $C(x;3)$ bo'lib, $AB\perp BC$ bo'lsa, x=?
Javob:
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802. $f(x;y)=2x+3y$ bo'lsa, $f(y;x)$=?
Javob:

803. $A\cup B=\{a;b;c;d\}$ va $B\cup C=\{a;b;c;d;1;2\}$ bo'lsa, $A\cup(B\cap C)$ ni toping.
Javob:

804. Bir nechta turist sayohatga chiqmoqchi. Har birlari 25000 so'mdan berishsa, 140000 so'm yetmaydi. Agar 30000 so'mdan berilsa, 140000 so'm ortiqcha. Nechta sayohatchi bor?
Javob:

805. 1, 2, 2, 3, 3, 3, 4, 4, 4, 4, 5, 5, 5, 5, 5, … ketma – ketlikning $n-$ hadini topish formulasini ko'rsating.
Javob:$a_n = \left[\frac{1+\sqrt{8n-7}}{2}\right]$

806. To'g'ri ABC burchakli uchburchakda $AB \perp AC$, $D \in AC$,=12,AB=8 bo'lsa, BC ni toping.
Javob:

807. Raqamlari juft va takrorlanmaydigan 3 xonali sonlar nechta?
Javob:

808. Teng yonli trapetsiyaning asoslari 5 va 13 ga teng. Tashqi chizilgan aylana markazi katta asosda yotadi. Trapetsiyaning yuzini toping.
Javob:

809. To'g'ri parallelepipedning asosi tomonlari 3 va 4 ga, ular orasidagi burchak 60° ga teng. Parallelepipedning eng katta diagonali 7 ga teng bo'lsa, uning hajmini toping.
Javob:

810. Agar $ctgx = 8$ bo'lsa, $\frac{1+ctg\left(\frac{13\pi}{2}+x\right)}{1-\sin(2\pi+x)} = ?$
Javob:

811. $ABCD$ rombning AB va AD tomonlarida M va N nuqtalar olinganki, CM va CN to'g'ri chiziqlar rombni 3 ta tengdosh shaklga ajratadi. Agar BD=27 bo'lsa, MN kesma uzunligini toping.
Javob:

812. $\vec{a}(-1;0)$ va $\vec{b}(2;y)$ vektorlar berilgan. y ning qanday qiymatida ular orasidagi burchak 60° bo'ladi?
Javob:

813. $ABCD$ trapetsiyada asoslari AD=30 va BC=24. Agar AB=6,$\angle A$=45° bo'lsa, COD uchburchak yuzini toping, bunda $O-$ trapetsiyaning diagonallari kesishgan nuqta.
Javob:

814. Sinfda 27 ta bolani 3 tadan necha xil usulda guruhlasa bo'ladi?
Javob:

815. tg 200°−4cos250° ni hisoblang.
Javob:

816. $(x^2 - 0{,}01)(2x - 5) = (x - 2{,}5)(x + 0{,}1)^2$ tenglamaning ildizlari yig'indisini toping.
Javob:

817. $\left||x^2 - 6|x|\right| = a$ $tenglama$ a ning qanday qiymatida 1 ta musbat va 1 ta manfiy yechimga ega bo'ladi?
Javob:$a > 9$

818. $y = \sqrt{-x^2 + 4x + 18} + 4$ egri chiziqdan (0;4) nuqtagacha bo'lgan eng qisqa masofani toping.
Javob:

819. $a = \sqrt{24} + \sqrt{26}$ va $b = 10$ sonlarni taqqoslang.

820. $\left||x^2 - 6|x|\right| = a$ $tenglama$ a ning qanday qiymatida 3 ta musbat va 3 ta manfiy yechimga ega bo'ladi?
Javob:$0 < a < 9$

821. $|5x-28| \leq 3x$ tengsizlikning butun yechimlari nechta?
Javob:

822. $ABCD$ rombning AB va AD tomonlarida M va N nuqtalar olinganki, CM va CN to'g'ri chiziqlar rombni 3 ta tengdosh shaklga ajratadi. Agar BD=12 bo'lsa, MN kesma uzunligini toping.
Javob:

823. $a_1 + a_2 + ... + a_{20} = 100$ va $a_{21} + a_{22} + ... + a_{40} = 160$ bo'lsa, arifmetik progressiyaning ayirmasini toping.
Javob:

824. $\frac{1}{sin110^\circ} - 4sin50^\circ$ ni hisoblang.
Javob:

825. $\int_0^1 \frac{6}{\sqrt{3x+1}}dx$ integralni hisoblang.
Javob:

826. Agar $(x^2+x)+(x^2+2x)+\cdots+$ $+(x^2+19x)=1425$ bo'lsa, x+2=?
Javob:

827. $\sqrt{5^x-1}=5^x-3$ tenglamani yeching.
Javob:

828. cos(2α+пk)=cos2α tenglik k ning qanday qiymatida o'rinli bo'ladi?
Javob:

829. $(2a+b)^3-(2a-b)^3$ ifodani ko'paytuvchilarga ajrating.
Javob:

830. Asosi tomonlari $3\sqrt{5}$ bo'lgan va yon yoqlari kvadratlaridan iborat bo'lgan muntazam oltiburchakli prizmaning kata diogonalini toping.
Javob:

831. $|3x^2+17x|\leq 2x$ tengsizlikni nechta butun son qanoatlantiradi?
Javob:

832. Trapetsiyaning asoslari 6 va 34 ga, yon tomonlari esa 26 va $2\sqrt{29}$ ga teng bo'lgan trapetsiyaning balandligini toping.
Javob:

833. y=k$_1$x+b_1 va y=k_2x+b_2 funksiyalarning grafiklari parallellik shartini ko'rsating.
Javob:

834. Oddiy yilning sakkizinchi sanasida tug'ilish ehtimolini toping.
Javob:

835. $\sqrt{2a^5}\cdot\sqrt{18a^2}$ ni soddalashtiring.
Javob:

836. Agar $a+b-c=11$ va $ab-ac-bc=9$ bo'lsa, $a^2+b^2+c^2$ ni hisoblang.
Javob:

837. $(4x^2-9)(x-0{,}3)=(10x-3)(x-1{,}5)^2$ Tenglamaning ildizlari yig'indisini hisoblang.
Javob:

838. $\frac{1}{sin200^\circ}+\frac{tg60^\circ}{3cos20^\circ}$ ni hisoblang.
Javob:

839. Agar $\int(2-x^2f(x))dx=x^2-3x+C$ C- const bo'lsa, f(x) funksiyani toping.
Javob:

840. y=sin3$x$cos3x funksiyaning eng kichik qiymatini toping.
Javob:

841. $|x^2+17x|\leq 2x$ tengsizlikni nechta butun son qanoatlantiradi?
Javob:

842. ln4x≥2 tengsizlikni yeching.
Javob:

843. $\sqrt{52}+\sqrt{46}$ va 14 ni taqqoslang.
Javob:

844. $\frac{8}{x^4}-\frac{8}{x}+5-\frac{8}{x^2}=0$ bo'lsa, x=?
Javob:

845. Teng yonli trapetsiyaning diagonali 8 ga teng. U katta asos bilan 45° burchak tashkil etsa, trapesiyaning yuzini toping.
Javob:

846. $(x+1)^{x^2-9}\leq 1$ tengsizlikni qanoatlantiruvchi eng kata butun sonni toping.
Javob:

847. Toq raqamlardan foydalanib raqamlari takrorlanmaydigan nechta uch xonali son tuzish mumkin?
Javob:

848. Agar hamma pul bersa 900 so'm yig'iladi. Agar 3 kishi bermasa qolgan kishilar 50 so'mdan qo'shishlariga to'g'ri keladi. Jami necha kishi bo'lgan?
Javob:9

849. 0,5·tg 20°+2sin20° ni hisoblang.
Javob:

850. $\int_{-1}^{3} \frac{1}{\sqrt{2x+3}}dx$ integralni hisoblang.
Javob:

851. $x^2+\frac{5}{x}=6$ bo'lsa, x^2+x ni toping.
Javob:

852. $x^2+3|x|=a$ tenglama a ning qanday 3 ta har xil ildizga ega bo'ladi?
Javob:

853. Agar $x^2-6x+3=0$ bo'lsa, $x^2+\frac{9}{x^2}$ ni toping.
Javob:

854. $P(x)=(1+2x-x^2)^4$ ko'phadning x^7 qatnashgan hadining koeffitsiyentini toping.
Javob:

855. Agar $f(x)=x^2+8x+12$ bo'lsa, $f\left(f\left(f\left(f\left(f(f(x))\right)\right)\right)\right)=0$ tenglama nechta yechimga ega?
Javob:

856. A(3;9) nuqtadan $(x-13)^2+(y+15)^2=81$ Egri chiziqqacha bo'lgan eng qisqa masofani toping.
Javob:

857. $(3tg^2x-1)\cdot\sqrt{-cosx}=0$ tenglamani yeching.
Javob:

858. Agar $log_a b=\frac{2}{3}$ bo'lsa, $log_{\sqrt[3]{a^2}\cdot\sqrt[3]{b}}\left(\frac{a\sqrt[3]{a}}{b\sqrt[3]{b}}\right)$ ni toping.
Javob:

859. Agar $f(x)=5cosx+6x$ bo'lsa, $f'(x)\geq f'\left(\frac{\pi}{2}\right)$ tengsizlikni yeching.
Javob:

860. $3+\sqrt{8}$ va $\sqrt{7}+\sqrt{10}$ sonlarni taqqoslang.
Javob:

861. Trapetsiyaning asoslari 5 va 30 ga, yon tomonlari esa 15 va 20 ga teng bo'lsa, uning yuzini toping.
Javob:

862. $\sqrt{34}+\sqrt{38}$ va 12 sonlarni taqqoslang.
Javob:

863. $|\vec{a}|=1;\ |\vec{b}|=2;\ |\vec{c}|=3;\ \vec{a}\perp\vec{b};$ $\vec{b}\perp\vec{c};\ \vec{a}^{\vec{c}}=60°$ bo'lsa, $|\vec{a}+\vec{b}-\vec{c}|=?$
Javob:

864. $y=\frac{1}{4}\sin\frac{x}{2}\cdot\cos\frac{2x}{3}$ funksiyaning eng kichik musbat davrini toping.
Javob:

865. $|9x^2-6x-1|=(x+a)^2$ tenglama a ning qanday qiymatida 3 ta yechimga ega bo'ladi?
Javob:

866. $\frac{(a-3)^2}{a}$ ifoda natural qiymat qabul qiladigan a ning eng katta va eng kichik qiymatlari yig'indisini toping.
Javob:

867. Radiuslari 24 va 30 bo'lgan o'zaro tashqi ravishda urinuvchi ikkita aylanaga umumiy tashqi urinmalar o'tkazilgan. Uchlari urinmalarning aylanalarga urinish nuqtalarida bo'lgan to'rtburchakka ichki chizilgan aylananing radiusini toping.
Javob:

868. ABC uchburchakka ichki chizilgan aylana markazidan AB tomonga parallel to'g'ri chiziq o'tkazilgan. Bu to'g'ri chiziq BC tomonni M nuqtada, AC tomonni N nuqtada kessa, $ABMN$ to'rtburchak perimetrini toping. Bunda AB=8,MN=5.

Javob:

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869. $\frac{(n+11)!}{(n+12)!}$ ni soddalashtiring.
Javob:

870. Odamning oddiy yildagi oyning 11 – sanasida tug'ilish ehtimolini toping.
Javob:

871. arccos(sin3) ni hisoblang.
Javob:

872. $\angle A$=120° bo'lgan teng yonli ABC uchburchakda AC va AB tomonlari o'rtasidan hamda B, uchlaridan o'tuvchi aylananing radiusi $\sqrt[4]{3}$ bo'lsa, uchburchakning yuzini toping.
Javob:

873. $(2^2+4^2+6^2+8^2+10^2)-$
$-(1^2+3^2+5^2+7^2+9^2)+5$ni hisoblang.
Javob:

874. $\int_0^8\left(4\sqrt[3]{x}+2x\right)dx$ integralni hisoblang.
Javob:

875. Muntazam uchburchakli piramidaning asosining tomoni 4 ga, asos tekisligi va yon yoqlar orasidagi burchak 45° ga teng. Piramidaning hajmini toping.
Javob:

876. $y=log_{\frac{1}{4}}(2x^2+3x+1)$ bo'lsa, y' ning aniqlanish sohasini toping.
Javob:

877. Bank qo'yilgan pulga yiligi 10% pul beradi. 2 yildan keyin qo'yilgan pul necha foizga oshadi?
Javob:

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878. To'g'ri burchakli uchburchakning bir burchagi 59° ga teng. Gipotenuzaga tushirilgan balandlik va bissektrisa orasidagi burchakni toping.
Javob:

879. $\angle A$=120° bo'lgan teng yonli ABC uchburchakda AC va AB tomonlari o'rtasidan hamda B, uchlaridan o'tuvchi aylananing radiusi $\sqrt{21}$bo'lsa, uchburchakning yuzini toping.
Javob:

880. $u\ va\ v\ lar\ x^2-6x+3=0$ tenglama ildizlari bo'lsa, $\frac{vu^3-uv^3}{v-u}$ ni hisoblang.
Javob:

881. $y=\sqrt{x^2+4x+18}+4$ egri chiziqdan (0;4) nuqtagacha bo'lgan eng qisqa masofani toping.
Javob:

882. 5 ta ruchka, 3 ta qalam va 4 ta flomaster bor. Ikkita xildagi predmetlardan tashkil topgan nechta to'plam tuzish mumkin?
Javob:

883. Tengsizlikni yeching:
$$\frac{1}{2}log_{x-1}(x^2-8x+16)+log_{4-x}(-x^2+5x-4)>3$$
Javob:

884. $\frac{25^x-5\cdot5^{x+1}+26}{5^x-1}+\frac{25^x-7\cdot5^{x+1}}{5^x-7}\le 2\cdot5^x-24$ tengsizlikni nechta natural son qanoatlantiradi?
Javob:

885. $\frac{3^2+1}{3^2-1}+\frac{5^2+1}{5^2-1}+\frac{7^2+1}{7^2-1}+\cdots+\frac{19^2+1}{19^2-1}$ ni hisoblang.
Javob:

886. Agar $\int(x^2+2)f(x)dx=2x^3--5x^2-4x+C,\ C\in R\ bo'lsa, f(0)$ ni toping.

887. Radiuslari 3, 5, 12 bo'lgan aylanalar tashqi ravishda urinadilar. Urinish nuqtalar orqali o'tuvchi aylananing radiusini toping.
Javob:

888. Qirrasi 6 ga teng bo'lgan kubning yuqori asosining markazi quyi asosining uchlari

bilan tutashtirildi. Hosil bo'lgan piramidaning to'la sirtini toping.
Javob:

889. Doston aka 3 xil mevalik kompot tayyorlamoqchi. Agar Doston akaning mevalari 6 xil bo'lsa, necha turdagi kompot tayyorlashi mumkin?

890. ABC uchburchakda balandlilari CD=7 va AE=6. E nuqta BC tomonni $BE:EC$=3:4 kabi nisbatda bo'ladi. BC tomonning uzunligini toping.
Javob:

891. $|x+2|+a|x-4|=6$ tenglama a ning qanday qiymatida yagona musbat yechimga ega?
Javob:

892. $log_2(arctgx) > 1$ tengsizlikni yeching.
Javob:

893. $f(x)=\begin{cases}4x+1; & x<0\\ -x^2+3; & x\geq 0\end{cases}$ funksiya berilgan. $f'\big(f(-2)\big)$ ni hisoblang.
Javob:

894. y=2ln(3x−1) funksiyaning hosilasini toping.
Javob:

895. Ushbu $x^2\cdot 9^{\sqrt{x}} \leq 3^{2(\sqrt{x}+2)}$ tengsizlikni qanoatlantiruvchi butun sonlar nechta?
Javob:

896. $\begin{cases}\sqrt{x}+\sqrt{y}=5\\ x+y+4\sqrt{xy}=27\end{cases}$ $bo'lsa, x-y$ ni toping.
Javob:

897. Hisoblang: $|5-\sqrt{26}|-|5+\sqrt{26}|$
Javob:

898. Hisoblang: $|5-\sqrt{19}|-|5+\sqrt{19}|$
Javob:

899. Geometrik progressiyada $b_1=6;\ S_n=\frac{242}{27}; q=\frac{1}{3}\ bo'lsa, b_n=?$
Javob:

900. Ushbu $x^2\cdot 9^{\sqrt{x}} \leq 3^{2(\sqrt{x}+1)}$ tengsizlikni qanoatlantiruvchi butun sonlar nechta?
Javob:

901. $(x^2-181^2)^2-724x-1=0$ tenglama nechta haqiqiy yechimga ega?
Javob:

902. $log_2(arcctgx) > 4$ tengsizlikni yeching.
Javob:

903. Radiuslari 1,5; 2; 10,5 bo'lgan aylanalar tashqi ravishda urinadilar. Uchala aylanaga urinuvchi aylanachaning radiusini toping.
Javob:

904. 1, 2, 2, 3, 3, 3, 4, 4, 4, 4, 5, 5, 5, 5, 5, … ketma – ketlikdagi 1000 – sonni toping.
Javob:

905. $log_2(arctgx) > 3$ tengsizlikni yeching.
Javob:

906. $e^x-x-2\geq 0$ tengsizlikni yeching.
Javob:

907. Qirrasi 6 ga teng bo'lgan kubning yuqori asosining markazi quyi asosining uchlari bilan tutashtirildi. Hosil bo'lgan piramidaning to'la sirtini toping.
Javob:

908. 2018 burchakli to'g'ri prizmaning nechta qirrasi bor?
Javob:

909. $\begin{vmatrix}2 & -3 & 5\\ 1 & 12 & 0\\ 5 & 8 & -2\end{vmatrix}$ determinantni hisoblang.
Javob:

910. $1^3+2^3+3^3+\cdots+2018^3$ ni 9 ga bo'lgandagi qoldiqni toping.
Javob:

911. Sport jamoasiga 45 ta mayka, 27 ta futbolka sotib olindi. Hamma bir xil kiyindi va

hammaga buyumlar yetdi. Jamoada eng ko'pi bilan nechta sportchi bo'lishi mumkin?
Javob:

912. Kesik konusning nechta simmetriya kesimi bor?
Javob:

913. 14 ta futbolchidan 11 tadan qilib necha xil jamoa tuzish mumkin?
Javob:

914. $y = \frac{18}{x^2} + 1\frac{7}{18}x^2$ funksiyaning eng kichik qiymatini toping.

A) 12 B) 10 C) 4 D) 8

915. 3 soni bilan noma'lum son orasiga shunday son qo'yilganki, bu uchta son arifmetik progressiya tashkil etadi. Agar ikkinchi son 6 ga kamaytirilsa, usbat hadli geometrik progressiya hosil bo'ladi. Arifmetik progressiyaning ikkinchi hadini toping.
A) 12 B) 14 C) 15 D) 27

916. 5082, 4587, 3069 sonlarining umumiy bo'luvchilari yig'indisini toping.
A) 48 B) 56 C) 64 D) 148

917. $\left(\frac{\log_6 27 + 2\log_6 2}{\log_6 \sqrt[3]{0{,}25} + \log_6(\frac{1}{3})}\right)^2$ ni hisoblang.
A) 9 B) $9\log_6 27$
C) 18 D) 27

918. Ikkiik sanoq sistemasida amallarni bajaring:
$101010 + 1\cdot 2^6 + 1\cdot 2^3 + 1\cdot 2^2 + 1\cdot 2^0 - 101$
A) 110010 B) 1110110
C) 1110010 D) 111000

919. Radiuslari 1 sm va 3 sm bo'lgan aylanalar tashqi ravishda urinadi. Ularning urinish nuqtasidan umumiy urunmasigacha bo'lgan masofani aniqlang (sm).
A) 2/3 B) 4/5
C) 5/6 D) 3/2

920. $x^2 + x - 2 = \frac{x^2+x-2}{x^2-1}$ tenglamaning ildizlari ko'paytmasini toping.
A) -4 B) 4
C) -2 D) 6

921. Tengsizlikni yeching.
$$x^2 + 4^{log_2 x} < 8$$
A) (-2;2) B) [-2;2]
C) (0;2] D) (0;2)

922. Bir to'g'ri chiziqda ketma-ket yotuvchi A, B, C va D nuqtalar uchun AB=CD va BC=12 ekanligi ma'lum. Bu chiziqda yotmaydigan E nuqtadan B va C nuqtalargacha bo'lgan masofa 10 ga teng. AED uchburchakning perimetri BEC uchburchaknikidan ikki marta katta. AB ni toping.
A) 7,5 B) 8
C) 8,5 D) 9

923. Agar $f(x)=(a+b-4)\cdot x^3 + 2x^2 + +(b-1)\cdot x$ juft funksiya berilgan bo'lsa, $f(a)$ ning qiymatini toping.
A) 12 B) 14
C) 20 D) 18

924. $(x^2 + x) + (x^2 + 2x) + \ldots + (x^2 + 19x) = 1425$ tenglamani qanoatlantiruvchi x natural sonni toping.
A) 6 B) 10
C) 5 D) 8

925. Hisoblang.
$$\int_1^2 \left(e^x + \frac{1}{x}\right) dx$$
A) $e^2 + e - \ln 2$ B) $e^2 - e + \ln 2$
C) $e^2 + e + \ln 2$ D) $e^2 - e - \ln 2$

926. ABC uchburchak uchlarining koordinatalari berilgan: A(8;12),
B(-8;0) va C(-2;8). Uchburchakning CM medianasi yotgan to'g'ri chiziq tenglamasini tuzing.

A) x+y=6 B) x+y+6=0
C) x+2y+3=0 D) x-y-6=0

927. A={x | x∈ N, $[-\sqrt{21}]\cdot[\sqrt{21}]\cdot[\sqrt{30+x}] = -160$} to'plamning elementlari sonini toping.
A) 17 B) 16
C) 18 D) 15
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928. Ifodani soddalashtiring. $\frac{a^4-10a^2+169}{a^2+6a+13}$
A) $a^2-5a+13$ B) a^2+13
C) $a^2-6a+13$ D) $a^2-3a+13$

929. Bir nuqtadan tekislikka uzunliklari 4 va 8 bo'lgan ikki og'ma tushirilgan. Og'malar proeksiyalarining nisbati $1:\sqrt{5}$ ga teng. Berilgan nuqtadan tekislikkacha bo'lgan masofani toping.
A) 2 B) 2,5 C) 3 D) $\sqrt{15}$

930. (cosx + 6)(4 – cosx) funksiyaning eng katta qiymatini toping.
A) 8 B) 12 C) 16 D) 25

931. Uchburchakli og'ma prizma asosining medianasi va shu mediana bilan kesishmaydigan yon qirraning o'rtasi orqali bu prizmadan piramida ajratadigan kesim o'tkazildi. Agar prizmaning hajmi 36 ga teng bo'lsa, piramidaning hajmi qanday.
A) 1,5 B) 2,5 C) 3 D) 5

932. 49. $1\le\frac{tg3x-tgx}{1+tg3x\cdot tgx}\le\sqrt{3}$ $(\frac{\pi}{12}\le x\le\pi)$ tengsizlikning eng katta va eng kichik yechimlari yig'indisini toping.
A) $\frac{11\pi}{12}$ B) $\frac{19\pi}{24}$ C) $\frac{5\pi}{48}$ D) $\frac{43\pi}{48}$

933. $y=4-\sqrt{6x+3}$ funksiyaning grafigiga x_o=1 nuqtada o'tkazilgan urunma va koordinata o'qlari bilan chegaralangan uchburchak yuzini toping.
A) 3 B) 1,5
C) 4 D) 2

934. $x>23-\frac{400}{x+17}$ tengsizlikni yeching.
A) (-17;3)∪ (3; ∞)
B) (-17; ∞)
C) (-∞; −17)
D) (-∞; −17) ∪ (−17; 3)
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935. a· b · c = 4 bo'lsa,
$(\frac{1}{a}-bc)\cdot(\frac{2}{b}-ac)\cdot(\frac{3}{c}-ab)$ ko'paytmaning qiymatini toping.
A) $\frac{2}{3}$ B) $-\frac{3}{2}$ C) 1 D) $-\frac{5}{3}$

936. $y = x^4 - 4\ln x$ funksiyaning minimum nuqtasini toping.
A) x=2 B) x=1
C) mavjud emas D) x=0

937. Hisoblang. arcsin(sin17)
A) 17 B) 17−5 π
C) 5 π − 17 D) 5π

938. $f(x)=cos\sqrt{2}\,x+\cos\frac{x}{\sqrt{2}}$ funksiyaning eng kichik musbat davrini toping.
A) $\pi\sqrt{2}$ B) $2\pi\sqrt{2}$
C) $\frac{\pi\sqrt{2}}{2}$ D) $\frac{\pi\sqrt{2}}{4}$

939. ABCD to'rtburchak aylanaga ichki chizilgan. ∠ABC=105°, ∠CAD=35° bo'lsa, ∠ABD ni toping.
A) 70° B) 60° C) 75° D) 80°

940. Uchburchakning katetlaridan biri 1D (14 lik sanoq sistemada), ikkinchisi 28 (14 lik sanoq sistema). Uchburchakning gipotenuzasini 14 lik sanoq sistemasida toping.
A) 32 B) 35 C) 36 D) 33

941. $\sin^4x+\cos^4x$ = a tenglama a ning qanday qiymatlarida yechimga ega.
A) a≥ 0,5 B) 0≤ a ≤ 0,5
C) a≤ 1 D) 0,5≤ a ≤ 1

942. 2^{2013} sonining oxirgi 2 ta raqamini toping.
A) 32 B) 72 C) 92 D) 12

943. 2^{2017} sonining oxirgi 2 ta raqamini toping.
A) 32 B) 72 C) 92 D) 12
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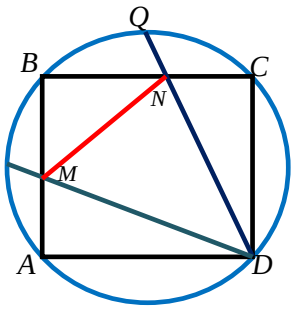
944. Tomoni 4 ga teng $ABCD$ kvadratga tashqi chizilgan aylanadagi AB va BC yoylar o'rtalari, mos ravishda, P va Q bo'lsin. Agar DP va DQ kesmalar AB va BC ni mos ravishda M va N da kessa MN = ?

A) $8(\sqrt{2}-1)$
B) $4(\sqrt{2}-1)$
C) $4(\sqrt{2}+1)$
D) $6(\sqrt{2}-1)$



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945. $P(x) = x^5 - 2x^4 + x^3 - x + 3$ ko'phadni $x^2 + 2$ ga bo'lganda qanday qoldiq qoladi?

A) $x + 2$ B) $2x + 1$
C) $x - 5$ D) $x + 3$

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946. Tomoni a ga teng bo'lgan $ABCD$ kvadrat berilgan. BC va CD tomonlarda M va N nuqtalar, mos ravishda, shunday olinganki, bunda $BM = 3MC$, $2CN = ND$. AMN uchburchakka ichki chizilgan aylana radiusini toping.

A) $\frac{3a}{2(5+\sqrt{13})}$ B) $\frac{3a}{2(5-\sqrt{13})}$
C) $\frac{3a}{2(2+\sqrt{13})}$ D) $\frac{3a}{\sqrt{5}}$

947. To'g'ri burchakli ABC uchburchakning C uchi to'g'ri burchak bo'lib BC kateti D va E nuqtalar orqali teng uch bo'lakka bo'lingan. Agar $BC = 3AC$ bo'lsa, P_{ADC} va P_{ABC} burchaklarning yig'indisini toping.

A) 60^0 B) 45^0
C) 30^0 D) 90^0

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948. $2^{99} + 2^9$ sonini 49 ga bo'lgandagi qoldiqni toping.

A) 0 B) 40 C) 39 D) 1

949. $a = \log_9 10$ va $b = \lg 11$ sonlar orasidagi munosabatni aniqlang.

A) $a > b$ B) $a < b$
C) $a = b$ D) $a = b + 1$

950. ABC uchburchakda BH balandlik va BM medianalar. Agar $AB = 1, BC = 2$ va $AM = BM$ bo'lsa, P_{MBH} burchakni hisoblang.

A) $\arccos 0,8$ B) $\arcsin 0,8$
C) $\arcsin 0,6$ D) $\arccos 0,6$

951. Ushbu $(x-y)^3 + (y-z)^3 + (z-x)^3 = 30$ tenglamani qanoatlantiruvchi (x,y,z) butun sonlar uchliklari nechta.

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

952. m ning qanday qiymatida $P(x) = x^{5n} - 3x^{3n} + mx^{2n} + x^n + 2$ ko'phad $x^n + 2$ ga qoldiqsiz bo'linadi.

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

953. Ushbu $(x-y)^3 + (y-z)^3 + (z-x)^3 = 30$ tenglamani qanoatlantiruvchi (x,y,z) butun sonlar uchliklarini toping.

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

954. Burchaklaridan hech biri o'tmas bo'lmagan uchburchakka tashqi chizilgan aylana radiusi 5 ga teng bo'lsa, u holda shu uchburchak medianalari yig'indisining eng kichik qiymatini toping.

A) 20 B) 10
C) 22,5 D) 5

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955. Yig'indini hisoblang:

$$\frac{1}{2!} + \frac{2}{3!} + \frac{3}{4!} + \ldots + \frac{99}{100!}$$

A) $1 - \frac{1}{100!}$ B) $1 + \frac{1}{100!}$
C) $\frac{1}{2} + \frac{1}{100!}$ D) $\frac{1}{2} - \frac{1}{100!}$

956. Agar $k = 2010^2 + 2^{2010}$ bo'lsa, $(k^2 + 2^k)$ ning oxirgi raqamini toping.

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

957. ABC -uchburchakda $\cos(2A - B) + \sin(A + B) = 2$ va $AB = 4$ bo'lsa, BC ni toping.

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

958. Ushbu $\sqrt{x^2 - 6x + 13} + \sqrt{x^2 - 14x + 58}$ ifodaning eng kichik qiymatini toping.

A) $\sqrt{41}$ B) 51 C) $\sqrt[3]{25}$ D) $\sqrt{43}$

959. Aylanaga $ABCD$ to'rtburchak ichki chizilgan. Agar $AB = 3, BC = 4, CD = 7, AD = 5$ bo'lsa, uning diagonallari ko'paytmasini toping.

A) 47 B) 43 C) 41 D) 42

960. Agar $ax = by = cz$ va $x + y + z = k^2$ bo'lsa, $\frac{1}{a} + \frac{1}{b} + \frac{1}{c} = ?$

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

961. Tenglama butun sonlarda nechta yechimga ega? $x^2 - y^2 = 1985$

A) 12 ta B) 8 ta
C) 10 ta D) 9 ta

962. Agar S_n arifmetil progressiyaning birinchi n ta hadining yig'indisi bo'lsa, $(S_{n+3} - 3S_{n+2} + 3S_{n+1} - S_n)$ ni hisoblang.

A) 1 B) S_n C) n D) 0

963. Berilgan kvadrat teng 49 ta kvadratchalarga bo'lindi. Hosil bo'lgan shaklda nechta kvadrat hosil bo'ladi?

A) 50 B) 140 C) 343 D) 344

964. Agar $f(x) = x^2 + 14x + 42$ bo'lsa, $f\left(f\left(f(f(x))\right)\right) = 0$ tenglamani yeching.

A) ildizi yo'q B) $\pm\sqrt[16]{7} - 7$
C) $\pm\sqrt[32]{7} + 7$ D) $\pm\sqrt[16]{7} + 7$

965. a, b, c uchlik $x^3 - x + 1 = 0$ ning ildizlari bo'lsa,

$\frac{1}{a+1} + \frac{1}{b+1} + \frac{1}{c+1}$ ni toping.

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

966. $a = 5^{56}, b = 10^{51}, c = 17^{35}, d = 31^{28}$ o'sib borish tartibida joylashtiring.

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

967. $\sin x = \frac{x}{8}$ tenglamaning nechta haqiqiy ildizi bor?

A) 5 B) 7 C) 8 D) 10

968. Hisoblang:

$$\frac{1}{2[\sqrt{1}]+1} + \frac{1}{2[\sqrt{2}]+1} + \ldots + \frac{1}{2[\sqrt{100}]+1}$$

(bunda йх шы x ning butun qismi).

A) $\frac{190}{21}$ B) $\frac{189}{21}$ C) 9 D) $\frac{180}{21}$

969. Hisoblang

$$\frac{\sin 10^0 + \sin 20^0 + \ldots + \sin 70^0 + \sin 80^0}{\cos 5^0 \cos 10^0 \cos 20^0}$$

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

970. Taqqoslang: $a = log_{2008}2009$ va $b = log_{2009}2010$.

A) $a > b$ B) $a < b$
C) $a = b$ D) aniqlab bo'lmaydi

971. $f(x) = |x-1| + |2x-1| + +|3x-1| + \cdots + |119x-1|$ bo'lsa

$f_{\min}$ ni toping.

A) 49 B)50 C)51 D)52

972. Hisoblang.

$$\frac{12}{1584}+\frac{13}{2028}+\frac{13}{2366}-\frac{39}{2002}$$

A) $-\frac{1}{1001}$ B) 0 C) $\frac{1}{91}$ D)1

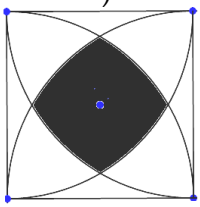
973. Soddalashtiring.

$(x+5y+6z)\cdot(x+6y+5z-1)-$
$-(x+5y+6z-1)\cdot(x+6y+5z)$

A) $x-z$ B) $11(y-z)$
C) $y-z$ D) $x-y$

974. $\sin x=-\left|\frac{\pi}{2}+x\right|$ tenglamaning ildizlari sonini toping.

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

975.  ushbu kvadratning tomoni 1 ga teng bo'lsa, bo'yalgan soha yuzini toping.

A) $\frac{\pi}{2}$ B) $\frac{2-\pi}{2}$

C) $\frac{\sqrt{3}-1}{2}$ D) $\frac{4+\pi-\sqrt{3}}{2}$

976. $u+\cfrac{1}{w+\cfrac{1}{x+\cfrac{1}{y+\cfrac{1}{z}}}}=\frac{222}{155}$ tenglamada u,w,x,y,z lar natural sonlar bo'lsa, $10^4z+10^3y+10^2x+10w+u$ qanday son bo'ladi?

A) 12345 B) 45321
C) 21345 D) 21435

977. $y=23x^4+11x^3-x^2+3x-17=0$ funksiya va unga $x_0=5$ nuqtada o'tkazilgan urinmaning nechta umumiy nuqtasi bor?

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

978. $\cos\left(\sqrt{4-x^2}+2\right)=a$ tenglamada a ning qaysi qiymatlarida shu tenglama hech bo'lmaganda bitta yechimga ega bo'ladi?

A) $[-1;1]$ B) $[-1;\cos 2]$
C) $[\cos 2;\cos 4]$ D) $(-2;2)$

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979. x, y, z musbat butun sonlar, xy = 24 va yz = 36 bo'lsa, x+y+z yig'indining eng kichik miqdorini toping.

A) 14 B) 17 C) 2 D) 23

980. $y=6+5x-x^2$ parabolaning OX o'qiga nisbatan simmetrigini toping.

A) $y=5x-x^2-6$

B) $y=x^2-5x-6$

C) $y=x^2+5x-6$

D) $y=6-5x-x^2$

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981. Agar $x^4-x+1=0$ tenglik o'rinli bo'lsa, x^{10} quyidagilardan qaysi biriga teng?

A) x^3-2x^2+x+1 B) $-2x^2+x+1$
C) $-2x^3+x^2+x-1$ D) $-2x^2+x-1$

982. Kasrni qisqartiring: $\frac{ab(x^2+y^2)+xy(a^2+b^2)}{ab(x^2-y^2)+xy(a^2-b^2)}$

A) $\frac{ax+by}{ax-by}$ B) $\frac{ax-by}{ax+by}$

C) $\frac{ay+bx}{ax-by}$ D) $\frac{ay+bx}{ay-bx}$

983. $\sqrt{3}+\sqrt{5}+\sqrt{7}+...+\sqrt{79}=a-2$ bo'lsa,
$\sqrt{12}+3+\sqrt{15}+\sqrt{21}+...+\sqrt{237}=?$

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

984. Yig'indini hisoblang.
17+20+23+26+…+9n+8

A) $\frac{(3n-2)(9n+25)}{2}$
B) (2n-6)(9n+25)
C) $\frac{3(n-3)(5n+23)}{2}$
D) 3(n-1)(9n+25)

985. $P(x)=(x^2-5x-3)Q(x-1)+3x-4$ ko'phad berilgan. P(x) - ko'phadning koeffitsiyentlari yig'indisi 13 ga teng bo'lsa, Q(x) – ko'phadning ozod hadini toping.

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

986. $\frac{1}{x^2}+\frac{1}{xy}+\frac{1}{y^2}=1$ tenglama nechta musbat butun yechimga ega?

A) 4 B) cheksiz ko'p C) Ø D) 1

987. Agar $x=\sqrt[3]{7+5\sqrt{2}}-\frac{1}{\sqrt[3]{7+5\sqrt{2}}}$ bo'lsa,
x^3+3^x-14 ifodaning qiymatini toping.

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

988. $a+b+c<0$ va $ax^2+bx+c=0$ tenglama haqiqiy yechimga ega emasligi ma'lum. Koeffitsiyent c ning ishorasini aniqlang.

A) c>0 B) c<0
C) c=0 D) aniqlab bo'lmaydi.

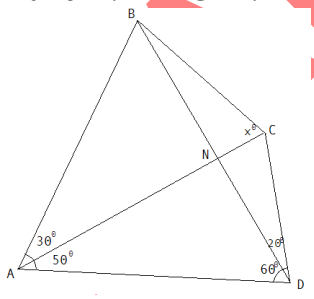
989. Teng yonli ABCuchburchakda B burchak 110° ga teng. Uchburchakning ichida shunday M nuqta olinganki, bunda $\angle MAC=30°, \angle MCA=25°$. $\angle BMC$ ni hisoblang.

A) 75° B)80° C) 85° D) 90°

990. Agar teng yonli trapetsiyaning balandligi h, yon tomoni esa unga tashqi chizilgan aylana markazidan α burchak ostida ko'rinsa, trapetsiyaning yuzini toping.

A) $S=h^2\cos\frac{\alpha}{2}$ B) $S=h^2 ctg\frac{\alpha}{2}$
C) $S=h^2\sin\frac{\alpha}{2}$ D) $S=\frac{1}{2}h^2 ctg\,\alpha$

991. Quyidagi chizmada $\angle BAC=30^0$, $\angle CAD=50^0$, $\angle ADB=60^0$ va $\angle BDC=20^0$ ekani ma'lum. $\angle ACB=?$



A) 40^0 B) 60^0
C) 70^0 D) 80^0

992. a ning qanday qiymatlarida
$-3<\frac{x^2+ax-2}{x^2-x+1}<2$ tengsizlik x ning barcha qiymatlarida o'rinli bo'ladi?

A) -1<a<2 B) -3<a<2
C) -2<a<1 D) a>0

993. $\begin{cases} x^2+y^2+2x\le 1 \\ x-y+a=0 \end{cases}$ sistema yagona yechimga ega bo'ladigan a ning barcha qiymatlarini toping.

A) $a=3; a=-1$ B) $a=3; a=1$
C) $a=-1$ D) $a=1$

994. 1 dan 300 gacha bo'lgan natural sonlar ko'paytmasi 6^n ga qoldiqsiz bo'linsa, n ning qabul qilishi mumkin bo'lgan eng katta qiymatini toping.

A) 59 B) 148 C) 256 D) 196

995. Hisoblang. $\int_1^3 \frac{6x-2}{3x^2-2x+1}dx$

A) $\ln\left(\frac{25}{2}\right)$ B) 21

C) ln11 D) ln21

996. Ifodaning qiymatini toping:
$1!\cdot 3-2!\cdot 4+3!\cdot 5-4!\cdot 6+\ldots-2014!\cdot 2016+2015!$
(bunda $n!=1\cdot 2\cdot 3\cdot\ldots\cdot n$).

A) 1 B) 2016!+1

C) 2015!-1 D) 2016!-1

997. $|x|+|y|<100$ tengsizlik butun sonlarda nechta yechimga ega?

A) 19601 B) 19701

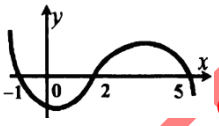
C) 19801 D) 10

998. $3^{333}+1$ sonini 5 ga bo'lgandagi qoldiqni toping.

A) 4 B) 2

C) 1 D) 3

999. Quyidagi chizmada f(x) funksiyaning grafigi keltirilgan bo'lsa, $f(x^2+x+3)=0$ tenglamaning barcha haqiqiy yechimlari yig'indisini toping.



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

1000. Teng yonli trapetsiyaning diagonali uni ikkita teng yonli uchburchakka ajratadi. Trapetsiya burchaklarini toping.

A) 72^0, 108^0 B) 45^0, 135^0

C) 80^0, 100^0 D) 82^0, 98^0

1001. $z=\left(1-i\sqrt{3}\right)^3(1+i)^2$ -kompleks sonning moduli va argumentini toping.

A) $|z|=16, \arg z=-\frac{\pi}{2}+2k\pi, k=0,\pm1,\pm2,\ldots;$

B) $|z|=16, \arg z=2k\pi, k=0\pm1,\pm2,\ldots;$

C) $|z|=16, \arg z=\frac{\pi}{2}+2k\pi, k=0,\pm1,\pm2,\ldots.;$

D) $|z|=16, \arg z=\pi+2k\pi, k=0,\pm1,\pm2,\ldots;$

1002. Hisoblang: $\begin{vmatrix}1&1&1\\1&2&3\\1&3&6\end{vmatrix}$

A) 1 B) 3

C) 2 D) 4

1003. Kompleks sonning trigonometrik shaklini toping: $-\frac{1}{2}-i\frac{\sqrt{3}}{2}$

A) $\cos\frac{4\pi}{3}+i\sin\frac{4\pi}{3}$; B) $\cos\frac{5\pi}{3}+i\sin\frac{5\pi}{3}$;

C) $\cos\frac{5\pi}{6}+i\sin\frac{5\pi}{6}$; D) $\cos\frac{7\pi}{6}+i\sin\frac{7\pi}{6}$.

1004. x^3+3x^2-x+1 ni x^2+x-1 ga bo'lishdan chiqqan qoldiq nimaga teng:

A) $3-2x$ B) 1 C) 0 D) $1+x$.

1005. To'plamlar nazariyasi asoschisi kim?

A) Pifagor B) Dekart

C) Kantor D) Ferma

1006. 1-o'quv guruhida 20 ta, 2-o'quv guruhida esa 25 ta talaba o'qiydi. Kengashga ikkala guruhdan bitta talabani vakil sifatida tanlash kerak. Buni necha usulda amalga oshirish mumkin?

A) 20 B) 25 C) 35 D) 45

1007. Berilgan 5 ta elementdan 3 tadan kombinatsiyalar soni necha bo'ladi?

A) 8 B) 10 C) 12 D) 6

1008. Do'kon peshtaxtasiga 6 ta turli tovarni necha usulda yonma-yon qilib joylashtirish mumkin?

A) 6 B) 36 C) 12 D) 720

1009. Vektorlar yig'indisi uchun qaysi qoida bo'lmaydi?

A) Parallelogramm qoidasi

B) Uchburchak qoidasi
C) Trapetsiya qoidasi
D) Parallelepiped qoidasi

1010. Ko'phadlarning EKUB (eng katta umumiy bo'luvchisi)ini toping:
$x^4+x^3-3x^2-4x-1$ va x^3+x^2-x-1.
A) $x+1$ B) $x-2$ C) $x+3$ D) $x-3$.

1011. "Negizlar" asarining nechanchi kitoblarida steronometriya asoslari bayon qilingan?
A) 11, 13, 14-kitoblar
B) 11, 12, 13-kitoblar
C) 11, 13, 15-kitoblar
D) 12, 13, 14-kitoblar

1012. Evklidning "Negizlar" asari necha kitobdan iborat?
A) 11 B) 12 C) 13 D) 14

1013. "Aylanani o'lchash" asarining muallifi kim?
A) Arximed
B) Evklid
C) Ptolemey
D) Ahmad Farg'oniy

1014. "Almagest" asarining muallifi kim?
A) Arximed
B) Evklid
C) Ptolemey
D) Ahmad Farg'oniy

1015. "Negizlar" asarining nechanchi kitobida Pifagor teoremasi va unga teskari teorema berilgan.
A) 1 B) 2 C) 3 D) 6

1016. "Negizlar" asarining nechanchi kitobida to'g'ri to'rtburchaklar va kvadratlarning yuzlari orasidagi munosabatlar qaralgan.
A) 1 B) 2 C) 3 D) 6

1017. "Negizlar" asarining nechanchi kitobi aylana va doira, markaziy va ichki chizilgan burchaklar, vatarlar va urinmalar xossalari bilan bog'liq masalalarga bag'ishlangan.
A) 4 B) 2
C) 3 D) 6

1018. "Negizlar" asarining nechanchi kitobida muntazam ko'pburchaklarning xossalari, ichki va tashqi chizilgan ko'pburchaklar hamda muntazam uchburchak, muntazam beshburchak, muntazam oltiburchak va muntazam o'n besh burchaklarni qurish qaralgan.
A) 4 B) 7
C) 5 D) 6

1019. "Negizlar" asarining nechanchi kitobida proporsiyalar qaralgan.
A) 4 B) 7
C) 6 D) 5

1020. "Negizlar" asarining nechanchi kitobida nisbatlar nazariyasining geometrik tatbiqlariga bag'ishlangan.
A) 4 B) 7
C) 3 D) 6

1021. $\sqrt{a^2+b^2}+\sqrt{(a-\sqrt{2010})^2+(b-\sqrt{15})^2}$ ifodaning eng kichik qiymatini toping.
A) 45 B) 46
C) 48 D) 50

1022. $\dfrac{4x^2+4y^2+x^2y^2}{x^4+y^4+16}$ i 1 tengsizlikni qanoatlantiruvchi barcha (x,y) sonlar juftliklari nechta?
A) 1 B) 2
C) 3 D) 4

1023. a, b, c lar arifmetik progressiyani hosil qiladi. Tomonlari a, b, c bo'lgan uchburchakka ichki chizilgan aylana radiusini toping.

A) $r = 1$ B) $r = \frac{h_a + h_b - h_c}{2}$

C) $r = \frac{1}{3}h_b$

D) masala yechimga ega emas.

1024. $x^2 + y^2 + ay = 0\ (a > 0)$ aylana markazidan $y = 2(a - x)$ to'g'ri chiziqqacha bo'lgan masofani toping.

A) $\frac{a\sqrt{5}}{4}$ B) $\frac{a\sqrt{3}}{2}$

C) $\frac{a\sqrt{5}}{2}$ D) $\frac{\sqrt{5}}{2a}$

1025. Shunday n - natural sonni topingki, shu songacha bo'lgan toq sonlar yig'indisidan 50 marta kichik bo'lsin.

A) 100 B) 200
C) 300 D) 250

1026. Ifodani soddalashtiring:

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

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

1027. Tenglamani yeching:

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

A) $1 + \sqrt{1 + \sqrt[3]{4}}$ B) $1 + \sqrt{2}$
C) $1 - \sqrt{2}$ D) $1 \pm \sqrt{2}$

1028. $a, b, x, y \in R;\ ax + by = 3;$
$ax^2 + by^2 = 7;\ ax^2 + by^2 = 7$
$ax^3 + by^3 = 16;\ ax^4 + by^4 = 42$
bo'lsa, $ax^5 + by^5 = ?$

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

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1029. Agar $lg2 = m;\ lg5 = n\ lg1400 = p;$ bo'lsa, $lg7$ ni hisoblang.

A) $p + 3m + 2n$
B) $p - 3m - 2n$
C) $p - 2m - 3n$
D) $p + 2m + 3n$

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1030. 17^{17} ning oxirgi ikkita raqamini toping.

A) 57 B) 77
C) 87 D) 67

1031. $x^4 + (2 - x)^4 = 34$ tenglama ildizlari yig'indisini toping.

A) 1 B) 2
C) 4 D) 8

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1032. $x^3 + x^2 + x + 1 = 0$ bo'lsa, $x^4 + 2x^3 + 2x^2 + 2x + 1$ nimaga teng bo'ladi?

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

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1033. O'qituvchilar o'qitishda nimalarga e'tibor berishlari kerak?

A) Bolalarni yoshiga, darslardagi misol yoki masalaga
B) O'quvchilarning individual xususiyatlarini hisobga olishi, ularga puxta bilim beradi, hayotga tayyorlaydi
C) O'quvchilarga bilim beradi, kasb tanlashga o'rgatadi
D) O'qituvchi o'quvchilarni individual xususiyatlarini o'rganadi

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1034. Arifmetik ildiz tushunchasiga ta'rif bering.

A) Kvadrati a ga teng bo'lgan son a sonning arifmetik ildizi deyiladi.
B) a sonning arifmetik kvadrat ildizi deb kvadrati a ga teng bo'lgan nomanfiy songa aytiladi.

C) Kvadrati $x = \sqrt{3^a}$ ga teng bo'lgan songa a sonning arifmetik kvadrat ildizi deyiladi.
D) a sonning arifmetik kvadrat ildizi deb kvadrati $\pm a$ ga teng bo'lgan songa aytiladi.

1035. Qanday tenglamaga ko'rsatkichli tenglama deyiladi?
A) Agar tenglamada ko'rsatkich amali qatnashsa, bunday tenglamani ko'rsatkichli tenglama deyiladi.
B) Agar tenglamadagi son ko'rsatkichli bo'lsa, u holda bunday tenglama ko'rsatkichli tenglama deyiladi.
C) Daraja ko'rsatkichida noma'lum miqdor qatnashgan tenglamalar ko'rsatkichli tenglama deyiladi.
D) Agar tenglamada noma'lum son qatnashsa, bunday tenglamani ko'rsatkichli tenglama deyiladi.

1036. Parametrli logarifmik tenglamani yechish bilan parametrsiz logarifmik tenglamani yechish nimasi bilan farq qiladi?
A) Parametrning qiymatini topish bilan.
B) Parametrli logarifmik tenglamalarni yechish parametrsiz shunday tenglamalardan ana shu parametrni qanoatlantiruvchi tenglama yechimini uning yo'l qo'yiladigan qiymatlari ichidan izlash bilan farq qiladi.
C) Ularni o'zaro farqi noma'lumni topish hamda parmetrni topish bilan.
D) Bunday tenglamalarni o'zaro farqi noma'lumni qanoatlantiruvchi parametrlarni topishdan iboratdir.