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1. 2016 original testlar
2. $log_2\left(2\sqrt{x+5}+5\right)+log_{0,5}(-x-0{,}5)=1$ tenglama nechta butun yechimga ega? (j:1)
3. $\left|1-log_{\frac{1}{6}}x\right|+2=\left|3-log_{\frac{1}{6}}x\right|$ tenglamani yeching. (j:$[\frac{1}{6};\infty)$)
4. $\begin{cases}\sqrt[x]{x+2y}=2\\(2x+4y)\cdot 3^x=72\end{cases}$ tenglamalar sistemasini yeching. (j: (2;1))
5. $\begin{cases}\sqrt[x]{x+2y}=2\\(2x+4y)\cdot 3^x=72\end{cases}$ tenglamalar sistemasini qanoatlantiradigan barcha x va y lar yig'indisini toping. (j:3)
6. $\arccos\left(\frac{x^2}{4}+x\right)=\frac{2\pi}{3}$ tenlama ildizlari yig'indisini toping. (j: -4)
7. $\arcsin(x^2-5x)=\arccos\left(\frac{\sqrt{3}}{2}\right)$ tenglama ildizlari yig'indisini toping.
8. $\arcsin\left(\frac{x^2}{3}-\frac{x}{2}\right)=\frac{\pi}{6}$ tenglama ildizlari yig'indisini toping. (j: 1,5)
9. Agar $1+cos4x-3sin2x=0$ tenglama berilgan. $tg4x$ ni toping.(j:-3)
10. $(\sqrt{5}-2)^{x^2}<(\sqrt{5}-2)^{2x}$ tengsizlikni yeching. (j: $(-\infty;0)\cup(2;\infty)$)
11. $\sqrt{x+3}>x+1$ tengsizlikning butun yechimlari nechta? (j:4)
12. $\frac{\sqrt{6-x-x^2}}{x^2-1}\le 0$ tengsizlikni yeching. (j: $\{-3\}\cup(-1;1)\cup\{2\}$)
13. $\frac{\sqrt{6-x-x^2}}{x^2-1}\le 0$ tengsizlikning butun yechimlari nechta? (j: 3ta)
14. $\sqrt{x^2-6x}<2x+8$ tengsizlikning musbat butun yechimlari nechta? (j: 5ta)
15. $4-x<\sqrt{6-x}$ tengsizlikning natural sonlardan iborat yechimlari yig'indisini toping. (j: 18)
16. $\left|\frac{x^2-5x+4}{x^2-4}\right|\le 1$ tengsizlikni nechta tub son qanoatlantiradi? (j: 1)
17. $|x^2-2x|\le x$ tengsizlikning eng katta va eng kichik butun yechimlari yig'indisini toping.
18. $log_{0,5}(\sqrt{2x+3}-x)\ge 0$ tengsizlikni yeching. (j: [-1,5;$\sqrt{2}$)
19. $x^2-16x=y^2-16y$, x≠ y bo'lsa, $x+y$ yig'indini toping. (j:16)
20. Agar $log_{12}27=a$ bo'lsa, $log_6 16$ ni a orqali ifodalang. (j: $\frac{4(3-a)}{3+a}$
21. Hisoblang: $log_3 2\cdot log_4 3\cdot log_5 4\cdot\ldots\cdot log_{10}9$. (j: lg2)
22. Tenglamani yeching. $\sqrt{2x+15}-42=2x-39$. (j: 0,5)
23. $15\cdot 5^x+3^{2x}=5^x+15\cdot 3^{2x}$ tenglamaning ildizlari soni nechta? (j:1 ta)
24. $\begin{cases}x^2+y^2+xy=3\\x^4+y^4=2\end{cases}$ tenglamalar sistemasining manfiy yechimlari juftligi nechta? (j:2)
25. Ko'paytuvchilarga ajrating: $-\frac{1}{2}x^2+6x+14$. (j: $-\frac{1}{2}(x+2)(x-14)$)
26. Tenglamani yeching: $\sqrt{3}ctgx+\sqrt{3}tgx-4=0$. (j: $\frac{\pi}{6}+\pi k;\frac{\pi}{3}+\pi k, k\in Z$)
27. Tenglamani yeching: $4sin^2x-2\left(1-\sqrt{3}\right)sinx-\sqrt{3}=0$. (j: 2)
28. $2\cos(2-3x)=1$ tenglamaning [-3;5] kesmadagi eng katta ildizini toping. (j: $\frac{11\pi+6}{9}$)
29. $x^2+20y^2=9xy$ tenglamada $\frac{x}{y}$ ning eng katta qiymatini toping. (j: 5)
30. $\begin{cases}\frac{1}{3x}-\frac{1}{2y}=\frac{1}{3}\\\frac{1}{9x^2}-\frac{1}{4y^2}=\frac{1}{4}\end{cases}$ tenglamalar sistemasining barcha $x+y$ ni toping. (j: $3\frac{1}{65}$)
31. $|x^2+2x-8|=3a$ tenlama a ning qanday qiymatlarida to'rtta haqiqiy yechimga ega bo'ladi? (j: (0;3))
32. $|x^2+2x-8|=3a$ tenlama a ning qanday qiymatlarida uchta haqiqiy yechimga ega bo'ladi?
33. $|x^2+2x-8|=3a$ tenlama a ning qanday qiymatlarida ikkita haqiqiy yechimga ega bo'ladi?
34. $|x^2+2x-8|=3a$ tenlama a ning qanday qiymatlarida bitta haqiqiy yechimga ega bo'ladi?
35. $|x^2+2x-8|=3a$ tenlama a ning qanday qiymatlarida haqiqiy yechimga ega bo'lmaydi?

36. $|x^2+2x-8|=3a$ tenlama a ning qanday qiymatlarida to'rtta musbat yechimga ega bo'ladi?

37. $|x^2+2x-8|=3a$ tenlama a ning qanday qiymatlarida uchta musbat, bitta manfiy haqiqiy yechimga ega bo'ladi?

38. $|x^2+2x-8|=3a$ tenlama a ning qanday qiymatlarida to'rtta manfiy yechimga ega bo'ladi?

39. $|x^2+2x-8|=3a$ tenlama a ning qanday qiymatlarida uchta manfiy, bitta musbat yechimga ega bo'ladi?

40. $|x^2+2x-8|=3a$ tenlama a ning qanday qiymatlarida ikkita musbat, ikkita manfiy yechimga ega bo'ladi?

41. $(x-3)^3+(2x+1)^3=27x^3-8$ tenglama ildizlari yig'indisini toping. (j: $\frac{1}{6}$)

42. Tenglamani yeching: $sin5{,}5x\cdot sin8{,}5x=-0{,}5\cdot cos14x$. (j: $\frac{\pi}{6}+\frac{\pi n}{3}, n\in Z$)

43. [1;100] kesmada 2,3,5,7 sonlariga bo'lganda qoldiq 1 chiqadigan natural sonlar nechta? (j:1)

44. [2;300] kesmada 2,3,5,7 sonlariga bo'lganda qoldiq 1 chiqadigan natural sonlar nechta? (j:1)

45. [0;100] kesmada 3 ga bo'lganda qoldiq 1 ga, 4 ga bo'lgandaqoldiq 2 ga, 5 ga bo'lganda qoldiq 3 ga, 6 ga bo'lganda qoldiq 4 ga teng bo'ladigan natural sonlar nechta? (j:1)

46. [10;50] kesmada 3 ga bo'lganda qoldiq 1 ga, 4 ga bo'lgandaqoldiq 2 ga, 5 ga bo'lganda qoldiq 3 ga, 6 ga bo'lganda qoldiq 4 ga teng bo'ladigan natural sonlar nechta? (j:0)

47. [0;150] kesmada 3 ga bo'lganda qoldiq 1 ga, 4 ga bo'lgandaqoldiq 2 ga, 5 ga bo'lganda qoldiq 3 ga, 6 ga bo'lganda qoldiq 4 ga teng bo'ladigan natural sonlar nechta? (j:2)

48. 12345123451234512345 sonida 10 ta natural son o'chirilganki, hosil bo'lgan son eng katta bo'ldi. Shu sonni toping.

49. 4 xonali sonning birinchi raqami 5 ga teng. Agar bu raqamni sonning oxiriga qo'yganda, oldingi sondan 747 ga kam son hosil bo'lsa, bu sonning raqamlar yig'indisini toping. (j: 18)

50. Raqamlar yig'indisi 4 ga teng bo'lgan nechta uch xonali son bor? (j: 10)

51. Sonning 8%i 40%ining necha foizini tashkil etadi? (j: 20)

52. 3234 va 3235 sonlarining umumiy natural bo'luvchilari nechta? (j: 1)

53. $\frac{11n+3}{13n+4}$ kasr qisqaradigan [1;25] kesmaga tegishli natural n sonlar nechta? (j: 5)

54. Trapetsiyaning 9 ga teng bo'lgan o'rta chizig'i uning yuzini 3:5 kabi nisbatda bo'ladi. Trapetsiyaning asoslarini toping.

55. Teng yonli trapetsiyaning diagonali uning o'tkir burchagi bissektrisasidir. Trapetsiyaning asoslari uzunliklari 2:4 kabi nisbatda, perimetri esa 12 ga teng. Trapetsiyaning o'rta chizig'ini toping.

56. Radiusi 1 ga teng, markazi O nuqtada bo'lgan aylana berilgan. Uning *AB* diametrida *M* nuqta olib, shu nuqta orqali AB bilan 45^o li burchak hosil qiluvchi CD vatar o'tkazilgan. CM^2+DM^2 ni toping. (j: 2)

57. Qavariq ABCDEF olti burchakda ichki burchaklari o'zaro teng. Agar AB=3, BC=4, CD=5, EF=4 ga teng bo'lsa, AF-DE ni toping. (j: 2)

58. Ko'pyoqning bitta yoqi beshburchak bo'lsa, uning yoqlari soni eng kamida nechta bo'lishi mumkin? (j: 6 ta)

59. Parallelipipedning asoslari tomoni 2 ga teng kvadratlardan, barcha yon yoqlari rombdan iborat. Yuqori asosining uchlaridan biri ostki asosining barcha uchlaridan baravar uzoqlikda joylashgan. Parallelipipedning hajmini toping. (j: $4\sqrt{2}$)

60. Asoslarining radiuslari 2 va 3 ga teng bo'lgan kesik konus va unga tengdosh silindrning balandliklari bir xil. Silindr asosining radiusini toping.

61. Asosi *a* ga, yon tomoni *b* ga teng bo'lgan teng yonli uchburchakning yon tomoniga tushurilgan medianasini toping: $(j: m_b=\frac{1}{2}\sqrt{2a^2+b^2})$

62. Asosi *a* ga, yon tomoni *b* ga teng bo'lgan teng yonli uchburchakning yon tomoniga tushurilgan bissektrisasini toping: $(j: l_b=\frac{a}{a+b}\sqrt{ab+2b^2})$

63. ABCD to'g'ri to'rtburchakda AB=2sm, BC=1 sm, AB tomonda shunday M nuqta tanlanganki, $\angle AMD$ va $\angle CMD$ burchaklar o'zaro teng. $\angle AMD$ ni toping. (j: 75^o)

64. ABC uchburchakning A ichki burchagidan o'tkazilgan bissektrisasi BC tomoni D nuqtada kesib o'tadi. Bunda AD=BD, AD=4, AC=5 ga teng bo'lsa, uchburchakning BC tomonini toping. (j: $3\sqrt{5}$)

65. Trapetsiyaning asoslari 11 va 5 ga teng. Asoslariga parallel bo'lib, uning yuzini teng ikkiga bo'luvchi kesma uzunligini toping. (j: $\sqrt{73}$)

66. Agar x=2017 bo'lsa, $\int_1^3 (sin^2 2016x + cos^2 2016x)dx$ ni hisoblang.

67. $y = log_2(arcsin2017x + arccos2017x)$ funksiyaning x=2017 nuqtadagi qiymatini toping. (j:0)

68. $f(x) = log_2(arctg2016x + arcctg2016x)$ bo'lsa, $f'(1)$ ni toping.

69. ABC teng yonli uchburchakka aylana ichki chizilgan (AB=BC). E nuqta aylananing AB tomonidagi urinish nuqtasi va BE=2, EA=1 bo'lsa, ABC uchburchakning yuzini toping. (j: $2\sqrt{2}$)

70. $log_{\frac{1}{9}} log_{\frac{1}{4}} \frac{x+4}{2x-1} > 0$ tengsizlikning eng katta va eng kichik butun yechimlari yig'indisini toping.

71. $log_{x-1}(3-x) \geq 0$ tengsizlikni yeching. (j: ∅)

72. $5 \cdot 0{,}2^{lgx} > 0{,}04^{lg2}$ tengsizlikni yeching. (j: (0;40))

73. $5 \cdot 0{,}2^{lgx} > 0{,}04^{lg2}$ tengsizlikni qanoatlantiruvchi eng katta natural sonni toping. (j: 39)

74. $y = x^2 - 6x + 13$ parobalaning uchi koordinata boshidan qanday masofada joylashgan? (j: 5)

75. $y = \left(x - \sqrt{5} + \sqrt{3}\right)(\sqrt{5} + \sqrt{3} + x)$ funksiya nollari yig'indisini toping. (j: $-2\sqrt{3}$)

76. $\sqrt{3}$ soni $y = -2x^2 + bx + 3$ funksiyaning noli bo'lsa, b ni toping. (j: $\sqrt{3}$)

77. $f(x) = \frac{x}{x+1}$ funksiya grafigi qaysi choraklardan o'tadi? (j: I, II, III)

78. $\sqrt{3x+1} \geq 2x - 2$ tengsizlik nechta butun yechimga ega? (j: 6)

79. $3 \geq \frac{-2-8x-x^2}{x^2-1}$ tengsizlikning eng katta butun manfiy yechimini toping. (j: -3)

80. $3 \geq \frac{-2-8x-x^2}{x^2-1}$ tengsizlikni qanoatlantiruvchi eng katta natural sonni toping. (j: -3)

81. $5^{2\sqrt{x}} + 5^{\sqrt{x}} < 5 + 5^{\sqrt{x}+1}$ tengsizlikni yeching. (j: [0;1))

82. $|x+5|^{x^2-1} \geq 1$ tengsizlikni yeching. (j: $(-\infty; -6] \cup [-4; -1] \cup [1; \infty)$)

83. $\frac{1}{|x+1|-1} \geq \frac{2}{|x+1|-2}$ tengsizlikning manfiy butun yechimlari yig'indisini toping. (j: -1)

84. $log_2^4 x - log_{0,5}^2 \frac{x^2}{8} + 9log_2 \frac{32}{x^2} < 4log_{0,5}^2 x$ tengsizlikni yeching. (j: $\left(\frac{1}{8}; \frac{1}{4}\right) \cup (4; 8)$)

85. $log_2^4 x - log_{0,5}^2 \frac{x^2}{8} + 9log_2 \frac{32}{x^2} < 4log_{0,5}^2 x$ tengsizlikni yechimga ega bo'lmaydigan eng kichik natural sonni toping. (j: 1)

86. $log_2^4 x - log_{0,5}^2 \frac{x^2}{8} + 9log_2 \frac{32}{x^2} < 4log_{0,5}^2 x$ tengsizlikning eng katta va eng kichik butun yechimlari ayirmasini toping. (j: 2)

87. $\sqrt[3]{x^{log_3 \sqrt[3]{x}}} > 3$ tengsizlikning eng kichik natural yechimini toping. (j: 28)

88. $log_{0,5}(4^x - 5 \cdot 2^x + 6) \geq -1$ tengsizlikni yeching. (j: [0;1) U $(log_2 3; 2]$)

89. $log_{0,5}(4^x - 5 \cdot 2^x + 6) \geq -1$ nechta butun son tengsizlikning yechimi bo'ladi? (j: 2)

90. $y = \sqrt{x^2} + |2x - 4| + 1$ funksiyaning eng kichik qiymatini toping. (j: 3)

91. $y = 4sin^2 2x + 4\sqrt{3}sinx \cdot cosx + 1{,}5cos4x + 1{,}5 - 2\sqrt{3}$ funksiyaning eng kichik qiymatini toping. (j: $4 - 4\sqrt{3}$)

92. $y = 4sin^2 2x + 4\sqrt{3}sinx \cdot cosx + 1{,}5cos4x + 1{,}5 - 2\sqrt{3}$ funksiyaning eng katta qiymatini toping. (j: 4)

93. $y = 1 + 2(sin^2 x - 3sin4x) + cos8x + cos2x$ funksiyaning qiymatlar sohasiga tegishli nomanfiy butun sonlarning o'rta arifmetigini toping. (j: 3,5)

94. Ifodani soddalashtirin $\frac{x^3+y^3+z^3-3xyz}{x^2+y^2+z^2-xy-yz-zx}$. (j: $x + y + z$)

95. Agar $x=-y, z=3$ bo'lsa, $\frac{x^3+y^3+z^3-3xyz}{x^2+y^2+z^2-xy-yz-zx}$ qiymatini toping. (j: 3)

96. $y=\ln(6+2(sin^2x-3sin4x)+cos8x+cos2x)$ funksiyaning qiymatlar sohasini toping. (j: $(-\infty; ln12)$)

97. $y=\ln(6+2(sin^2x-3sin4x)+cos8x+cos2x)$ funksiyaning qiymatlar sohasiga tegishli butun nomanfiy sonlar nechta. (j: 3)

98. $y=\sqrt{6+2(sin^2x-3sin4x)+cos8x+cos2x}$ funksiyaning qiymatlar sohasiga tegishli butun sonlar nechta? (j: 4 ta)

99. $y=4cos^2x+sin^2x$ funksiyaning butun qiymatlari yig'indisini toping. (j: 10)

100. $y=|x|+|x-4|$ va $y=8$ chiziqlar bilan chegaralangan soha yuzini toping. (j: 24)

101. $\sqrt{4x+3}-\sqrt{3x+12}=-\sqrt{x+1}$ tenglama ildizlari yig'indisini toping. (j: -1)

102. Tenglamani yeching: $\sqrt[3]{x^2}=\sqrt[3]{x}+6$. (j: -8; 27)

103. a ning qanday qiymatlarida $y=\sqrt{3}x+a$ va $y=\sqrt{3}x+1$ chiziqlar orasidagi masofa 0,5 dan kichik bo'ladi? (j: (0;2))

104. $\sqrt{2x^2-8x+9}=x-1$ tenglama nechta butun yechimga ega? (j: 2)

105. $\sqrt{1+log_x\sqrt{27}\cdot log_3x}+1=0$ tenglamaning ildizlari yig'indisini toping. (j: $\frac{1}{9}$)

106. Tenglamani yeching: $3^x\cdot 2^{x+5}-6^x=1116$. (j: 2)

107. $4+\frac{2}{5^x-1}=\frac{3}{5^{x-1}}$ tenglamaning kichik ikdizini toping. (j: $1-log_54$)

108. $\begin{cases}x^2+(y+a)^2-25=0\\ x^2+y=-5\end{cases}$ tenglamalar sistemasi yagona yechimga ega bo'lsa, a ning qiymatini toping. (j: $a=0$)

109. $\begin{cases}x^2+(y+a)^2-4=0\\ x^2+y=b\end{cases}$ tenglamalar sistemasi yagona yechimga ega bo'lsa, $a+b$ ning qiymatini toping. (j: -2)

110. Tenglamani yeching: $5x+2\sqrt{x^2+2{,}5x+2{,}5}=-2x^2-1$. (j: -1; -1,5)

111. Tenglamani yeching: $\frac{x-3\sqrt{x}+2}{\sqrt{x}-1}=\frac{4}{\sqrt{2x}-4}-2$

112. $5x^2-6x+a=0$ tenglamaning bitta ildizi $x_1=-1$ bo'lsa, ikkinchi ildizi x_2 ni toping. (j: 2,2)

113. Tenglamani yeching: $2x\sqrt{1-5x}=7x-3$. (j: -3)

114. Tenglamani yeching: $sin7x\cdot cos7x=0{,}5sin18x$ (j: $\frac{\pi n}{4}, n\in Z$)

115. Tenglamani yeching: $\sqrt{3}\cdot 3^{\frac{x}{1+\sqrt{x}}}\cdot(\frac{1}{3})^{\frac{2+\sqrt{x}+x}{2+2\sqrt{x}}}=81$ (j: 81)

116. $f(x)=4x^2+ax+103b$ kvadrat uchhad f(1)+f(4)+f(6)+f(7)-f(2)-f(3)-f(5)-f(8) ni toping. (j: 0)

117. $y=3\sin(2x+\frac{\pi}{4})$ funksiya nechta butun qiymat qabul qiladi. (j: 7)

118. $f(x)=ax^7+bx^3-2$ funksiya uchun f(4)=-2 bo'lsa, f(-4) ni toping. (j: -2)

119. $y=3sin^2x+3sin^2(\frac{2017\pi}{2}-x)$ funksiya qiymatlar sohasiga nechta butun son tegishli? (j: 1)

120. $f(x)=ax^7+bx^3-2$ funksiya uchun f(2)=-2 bo'lsa, f(-2) ni toping. (j: -2)

121. Agar $f(x)=13^x\cdot 3x$ berilgan bo'lsa, $f'(x)>0$ tengsizlikni yeching. (j: $(-log_{13}e;\infty)$)

122. $f(x+1)=x^2-2x+4$ bo'lsa, $f(x)$ funksiyaning $\vec{a}(-3;-5)$ vektor bo'yicha parallel ko'chirish natijasida hosil bo'ladigan funksiya ko'rinishini toping. (j: x^2+2x-1)

123. $y=\sqrt{9x^2-12x+4}+|x|$ funksiyaning eng kichik qiymatini toping. (j: $\frac{2}{3}$)

124. $y=5cos^2x+sin^2x$ funksiya butun qiymatlari yig'indisini toping. (j:15)

125. a ning qanday qiymatlarida $y=-x^2+2x+a$ musbat butun qiymatlari yig'indisi 3 ga teng? (j: 1)

126. Shahmat musobaqasida 17 nafar sportchi ishtirok etdi. Har ikki nafar ishtirokchilar bir-biri bilan bir marta o'ynashi kerak edi. Musobaqa paytida bitta ishtirokchi kasal bo'lib, musobaqani tark etdi. Natijada jami bo'lib 130 ta o'yin o'ynaydi. Kasal bo'lgan shaxmatchi nechta o'yin o'ynamaydi? (j: 10)

127. To'g'ri tenglikni aniqlang:

128. $a^0 = 1, a \neq 0$ B) $\sqrt{a^2} = a$ C) $(\sqrt{a})^2 = a$ D) $(-a)^{\frac{5}{7}} = a^{\frac{5}{7}}$

129. $a^{\frac{m}{n}} = \sqrt[n]{a^m},\ a > 0$ B) $\sqrt{a^2} = a$ C) $(\sqrt{a})^2 = a$ D) $(-a)^{\frac{5}{7}} = a^{\frac{5}{7}}$

130. $\frac{2n}{3n} = \frac{2}{3}\ a > 0$ B) $\sqrt{a^2} = a$ C) $(\sqrt{a})^2 = a$ D) $(-a)^{\frac{5}{7}} = a^{\frac{5}{7}}$

131. {*a, b, c, d*} to'plamning nechta qism to'plamlari mavjud? (j: 32)

132. $\{x \mid x \in N, x^2 < 26\}$ to'plamning nechta qism to'plamlari bor? (j: 32)

133. Nomanfiy x, y sonlari uchun $a = \frac{4x+y}{2}$ va $b = 2\sqrt{xy}$ bo'lsa, qaysi tengsizlik doimo o'rinli?

134. Agar $a > 3, b > 5$ bo'lsa, quyidagilardan qaysi biri o'rinli?

135. 2*a*+3*b*>21 2) 2*a*+3*b*>36-*ab* 3) $(a+b)^2$>65 4) $2a^2+3b^2$>94 5) 3*a*+2*b*>19

136. Ifodani soddalashtiring: $(1+tg3^o)\ (1+tg4^o)\ (1+tg41^o)\ (1+tg42^o)$. (j: 4)

137. $\alpha + \beta + \gamma = \pi, sin\frac{\alpha}{2} \cdot sin\frac{\beta}{2} \cdot sin\frac{\gamma}{2} = a$ bo'lsa, $cos\alpha + cos\beta + cos\gamma$ ni toping. (j: 4*a*)

138. $\{x \mid x \in N, -3 < x \leq 5\}$ to'plamning nechta qism to'plamlari bor? (j: 32)

139. ABC uchburchakning BC tomoniga AD to'g'ri chiziq shunday o'tkazilganki, natijada AC asos teng yonli ADC uchburchak hosil bo'lgan. Agar ABC va ABD uchburchaklar perimetrlari mos ravishda 51 va 40 ga teng bo'lsa, AC tomon uzunligini toping.

140. $\alpha + \beta + \gamma = \pi, cos\frac{\alpha}{2} \cdot cos\frac{\beta}{2} \cdot cos\frac{\gamma}{2} = a$ bo'lsa, $sin\alpha + sin\beta + sin\gamma$ ni toping. (j: 4*a*)

141. $\{x \mid x \in N, -1 \leq x \leq 5\}$ to'plamning nechta qism to'plamlari bor? (j: 32)

142. $\alpha + \beta + \gamma = \pi, sin\alpha \cdot sin\beta \cdot sin\gamma = a$ bo'lsa, $sin2\alpha + sin2\beta + sin2\gamma$ ni toping. (j: 4*a*)

143. $\{x \mid x \in Z, -3 \leq x \leq 5\}$ to'plamning nechta qism to'plamlari bor? (j: 512)

144. $\alpha + \beta + \gamma = \pi, sin2\alpha \cdot sin2\beta \cdot sin2\gamma = a$ bo'lsa, $sin4\alpha + sin4\beta + sin4\gamma$ ni toping. (j: -4*a*)

145. $\left|3 - \sqrt{x+5}\right| > \frac{x-8}{6}$ tengsizlikning manfiy butun yechimlari nechta? (j:5)

146. $lg^2x^2 = 4$ tenglama nechta yechimga ega? (j: 4)

147. $log_5(5^x - 24) = 2 - x$ tenglamani yeching. (j: 2)

148. $5\sqrt{log_2 x} - 2log_2 4x + 2 = 0$ tenglamani yeching. (j: $x_1 = 16, x_2 = 4\sqrt{2}$

149. $log_2(2^x - 1) \cdot log_2(2^{x+2} - 4) = -1$ tenglamani yeching. (j: $x = log_2 3 - 1$)

150. $2lgx^2 - (\lg(-x))^2 = 4$ tenglamani yeching. (j: -100)

151. 60^o li BAC burchakka aylana ichki chizilgan. Aylana burchak tomonlariga B va C nuqtalarda urinadi. Agar BC=3 bo'lsa, AB+AC ni toping. (j: 6)

152. $\{x \mid x \in N, x^2 \leq 27\}$ to'plamning nechta qism to'plamlari bor? (j: 32)

153. Trapetsiyaning diagonallari o'zaro perpendikulyar bo'lib, uning yuzi 4 ga teng bo'lsa, trapetsiya balandligini toping. (j: 2)

154. Tomoni 6 ga va o'tkir burchagi 60^o ga teng bo'lgan rombning kichik diagonalini o'tkazish natijasida hosil bo'lgan uchburchakka ichki chizilgan aylana radiusini toping. (j: $\sqrt{3}$)

155. Tomoni 27 ga va o'tkir burchagi 60^o ga teng bo'lgan rombning kichik diagonalini o'tkazish natijasida hosil bo'lgan uchburchakka ichki chizilgan aylana radiusini toping. (j: $4{,}5\sqrt{3}$)

156. $f(x) = \frac{x-8}{x+1}$ funksiyaning boshlang'ich funksiyasini toping.

157. ABC uchburchakning BC tomoniga AD to'g'ri chiziq shunday o'tkazilganki, natijada AC asos teng yonli ADC uchburchak hosil bo'lgan. Agar ABC va ABD uchburchaklar perimetrlari mos ravishda 39 va 27 ga teng bo'lsa, AC tomon uzunligini toping.

158. $f(x) = \frac{x-8}{x-1}$ funksiyaning boshlang'ich funksiyasini toping.

159. $x^2 + 10x + y^2 + 6y = 32$ tenglama bilan berilgan aylana chegaralab turgan soha yuzini toping. (j: 66π)

160. $f(x)=\frac{x}{x-1}$ funksiyaning boshlang'ich funksiyasini toping. (j: $F(x)=x+ln|x-1|+C$)

161. *F(x)*=7*sin5x*+5*sin7x*+12 hosilasini toping. (j: *70cosxcos6x*)

162. $\int_1^2(\ln(sin^2 2x+cos^2 2x)+1)dx$ ni hisoblang. (j: 1)

163. $\int\left(5x^4-\frac{8\sqrt[5]{x^3}}{5}+6\right)dx$ ni hisoblang. (j: $x^5-x\sqrt[5]{x^3}+6x+C$)

164. $\int\left(x^2+\sqrt[3]{x}-7\right)dx$ ni hisoblang. (j: $\frac{x^3}{3}+\frac{3x\sqrt[3]{x}}{4}-7x+C$)

165. Trapetsiyaning 20 ga teng bo'lgan o'rta chizig'I uning yuzini 3:5 kabi nisbatda bo'ladi. Trapetsiyaning asoslarini toping.

166. 10 va 30 B) 15 va 25 C) 12 va 28 D) 14 va 26

167. Qirralari 18, 14 va 16 bo'lgan parallelepiped qirrasi 1 ga teng bo'lgan kubchalardan tashkil topgan. Parallelepipeddan 1 kubcha qalinlikdagi tashqi sirtni olib tashlash uchun nechta kubcha olinishi kerak? (1344)

168. C nuqta AB kesmaning o'rtasi, M nuqta AC kesmadan, N nuqta CB kesmadan olingan. Agar AM:MC=CN:NB va AB kesma 24 ga teng bo'lsa, MN kesma uzunligini toping. (j: 12)

169. ABC to'g'ri burchakli uchburchakning AB gipotenuzasiga CH balandlik va CM to'g'ri chiziq shunday o'tkazilganki, natijada AB kesma teng uch bo'lakka bo'lingan. Agar CHM uchburchakning yuzi 3 ga teng bo'lsa, ABC uchburchak yuzini toping. (j: 12)

170. $\int\sqrt{3x-5}dx$ ni hisoblang. (j: $\frac{(6x-10)\sqrt{3x-5}}{3}$)

171. Bitta nuqtada kesishadigan 17 ta to'g'ri chiziq tekislikni nechta qismga ajratadi? (j: 34)

172. ABC to'g'ri burchakli uchburchakning gipotenuzasiga tushurilgan CD balandligi uchburchakni ikkita BCD va ACD uchburchaklarga bo'ladi. Agar BCD uchburchakning yarim perimetri p_1 ga , ACD uchburchakning yarim perimetri p_2 ga teng bo'lsa, ABC uchburchakning yarim perimetri *p* ni toping. (j: $p=\sqrt{p_1^2+p_2^2}$)

173. ABCD parallelogrammning AD tomoniga tushurilgan BP kesma AC diagonalni O nuqtada kesib o'tadi. AP:AD=1:5 kabi bo'lsa, AC:AQ ni toping. (j: 6)

174. C nuqta AB kesmaning o'rtasi, M nuqta AC kesmadan, N nuqta CB kesmadan olingan. Agar AM:MC=CN:NB va AB kesma 12 ga teng bo'lsa, MN kesma uzunligini toping. (j: 6)

175. ABC to'g'ri burchakli uchburchakning AB gipotenuzasiga CH balandlik va CM to'g'ri chiziq shunday o'tkazilganki, natijada AB kesma teng uch bo'lakka bo'lingan. Agar CHM uchburchakning yuzi 4 ga teng bo'lsa, ABC uchburchak yuzini toping. (j: 16)

176. Trapetsiyaning 15 ga teng bo'lgan o'rta chizig'i uning yuzini 3:5 kabi nisbatda bo'ladi. Trapetsiyaning asoslarini toping.

7,5 va 22,5 B) 8 va 22 C) 6,5 va 23,5 D) 10 va 20

177. Uchburchakning ikkita tomoni 4 va 5 ga va ular orasidagi burchak kosinusi $\frac{1}{5}$ ga teng. Uchburchakning uchinchi tomoniga tushurilgan balandligini toping. (j: $\frac{16}{\sqrt{17}}$)

178. $5x+(x-5)^2-18=\sqrt{x^2-5x+9}$ teglama ildizlari ko'paytmasini toping. (j: 5)

179. Diyora akalari yoshlarining ko'paytmasi 1664 ga teng. Uning eng kichik akasi eng katta akasidan 2 marta kichik. Diyoraning akalari nechta? (j: 3)

180. Nechta turli yon tomoni 1 sm ga teng bo'lgan teng yonli uchburchaklarni 2 ta teng yonli uchburchakka ajratish mumkin? (j: 4 ta)

181. Qirralari 12, 14 va 16 bo'lgan parallelepiped qirrasi 1 ga teng bo'lgan kubchalardan tashkil topgan. Parallelepipeddan 1 kubcha qalinlikdagi tashqi sirtni olib tashlash uchun nechta kubcha olinishi kerak? (1008)

182. Prizmaning qirralari soni 60 ga teng. Uning yoqlari soni nechta? (j:22)

183. Teng yonli ABC uchburchakning AC asosida D nuqta shunday olinganki, AD=13, DC=15, ABD va DBC uchburchaklarga ichki chizilgan aylanalar BD to'g'ri chiziqqa mos ravishda M va N nuqtalarda urinadilar. MN kesma uzunligini toping. (j: 1)

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184. Berilgan ABC uchburchakka E nuqta AC tomonning o'rtasi, BC tomonda D nuqta shunday olinganki, 2BD=DC o'rinli. AD va BE to'g'ri chiziqlar F nuqtada kesishsin. Agar FDCE to'rtburchakning yuzi 20 ga teng bo'lsa, BDE uchburchakning yuzini toping. (j: 4)

185. AB kesma K aylananing diametri bo'lsin. L aylana K aylanaga hamda AB to'g'ri chiziqqa K aylananing markazida urinadi. M aylana K va L aylanaga hamda AB to'g'ri chiziqqa urinadi. Agar M doira yuzasi 2 ga teng bo'lsa, K doira yuzini toping. (j:32)

186. Qirras a ga teng kubning ikkita qo'shni yoqlari ayqash diagonallari orasidagi eng qisqa masofani toping. (j: $\frac{a}{\sqrt{3}}$)

187. ABCD tetraedrning D uchidagi yassi burchaklar to'g'ri. Shu tetraedrda kub shunday ichki chizilganki, kubning bitta uchi D nuqtaga, unga qarama-qarshi uchi esa ABC yoqda yotibdi. Agar DA=a, DB=b va DC=c bo'lsa, kub qirrasining uzunligini toping. (j: $\frac{abc}{ab+bc+ac}$

188. Ox o'qidan 7 marta, Oy o'qidan 3 marta cho'zish orqali y=f(x) funksiya grafigidan qaysi funksiya grafigi hosil qilinadi? J: $y = 7f(\frac{x}{3})$

189. XOY Dekart koordinata sistemasida 2 ta to'g'ri chiziq berilgan bo'lib, ulardan biri koordinata boshi va A(2;3) nuqtadan, ikkinchisi B(0;2) va C(1;0) nuqtalardan o'tishi ma'lum bo'lsa, ular kesishish nuqtasining koordinatala yig'indisini toping.

$A)\ \frac{4}{7}$ B) $\frac{6}{7}$ C) 3 D) $\frac{10}{7}$

190. $x^2 - 4x + y^2 + 6y = 12$ tenglama bilan berilgan aylana radiusini toping.

191. $y = \frac{2}{3}x^3 - \frac{3}{2}x^2 - \frac{1}{2}x + \frac{1}{3}$ funksiyaning x=1 nuqtadagi burchak koeffitsientini toping.

192. $y = \frac{1}{\sqrt{x}}; y = 0; x = 1; x = 9$ chiziqlar bilan chegaralangan shaklning yuzini toping.

193. To'g'ri burchakli uchburchakning bir kateti 18 ga teng, uning medianalari kesishish nuqtasidan ikkinchi katetgacha bo'lgan masofani toping.

194. $log_{\frac{1}{8}}^{2}(9 - x^2) - 2log_{\frac{1}{8}}(9 - x^2) - 8 \le 0$ tengsizlikning yechimi bo'lmaydigan eng kichik natural sonni toping.

195. $y = cos2\pi + 4cos^4x - 4cos^3x$ funksiyaning eng kichik musbat davrini toping.

196. Agar $a + b + c = 7$ bo'lsa, $\frac{1}{a+b} + \frac{1}{b+c} + \frac{1}{c+a} = \frac{7}{10}$ bo'lsa, $\frac{c}{a+b} + \frac{a}{b+c} + \frac{b}{c+a}$ son nimaga teng.

197. a ning qanday qiymatlarida 3-5x=2(2a-3x) tenglamaning ildizlari beshdan katta emas?

198. O'suvchi arifmetik progressianing dastlabki uchta hadi yig'indisi 21 ga teng. Bu hadlar mos ravishda 1; 1; 5 qo'shilsa, geometrik progressiya hosil bo'ladi. Shu geometrik progressiyaning dastlabki 8 ta hadi yig'indisini toping.

199. $\alpha = 7{,}5^o, a = (tg\alpha)^{tg\alpha}, b = (tg\alpha)^{ctg\alpha}, c = (ctg\alpha)^{tg\alpha}, d = (ctg\alpha)^{ctg\alpha}$ bo'lsa, quyidagilardan qaysi biri o'rinli

A) c>d>a>b B) d>a>c>b C) d>c>b>a D) d>c>a>b

200. Teng yonli uchburchakning asosi 16 ga, yon tomoni esa 10 ga teng. Bu uchburchakka ichki va tashqi chizilgan aylanalarning markazlari orasidagi masofani toping.

201. $\frac{18}{x^4+39}$ ifodaning eng katta qiymati bilan $x^6 + 52$ ning eng kichik qiymati ko'paytmasining $\frac{1}{12}$ qismini toping.

202. Piramidaning qirralari soni 63 ga teng. Uning yoqlari sonini toping.

203. f(x+2)+f(x-1)=2(x^2+7) ekani ma'lum bo'lsa, f(x) ko'phadni toping.

204. $\log_7(x - 5)\,(x^2 - 19x + 88) < 0$ tengsizlikning butun yechimlari yig'indisini toping.

205. ABC uchburchakka ichki chizilgan aylana AB, BC va AC tomonlarga mos ravishda P, Q, R nuqtalarda urinadi. Agar BC=12sm, AB=10sm va AC=5 sm bo'lsa, CQ ni toping.

206. $\frac{\sqrt{6-x-x^2}}{x^2-1} \leq 0$ tengsizlkning butun yechimlari nechta?

207. Katetlari $2\sqrt{2}$ va 8 ga teng bo'lgan uchburchak kichik tomoni atrofida aylantirish natijasida hosil bo'lgan jismning to'la sirtini toping.

208. Aylanaga ichki chizilgan ABCD to'rtburchakning AC va BD diagonallari E nuqtada kesishadi. Agar AB=3, BC=5, CD=4 va CE:EA=4:3 bo'lsa, AC kesmaning uzunligini toping.

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

209. $\bar{a}(2;-2;6)$ vektorlar berilgan bo'lib, $\bar{c}$ vektor $\bar{a}$ vektor bilan kollinear va $(\bar{a}\cdot\bar{c}) = -66$ shartni qanoatlantiradi. $\bar{c}$ vektorning uzunligini toping.

A) $3\sqrt{11}$ B) $2\sqrt{11}$ C) $6\sqrt{3}$ D) $3\sqrt{22}$

210. $\frac{sin2\alpha - tg\alpha}{tg\alpha\cdot cos2\alpha}$ ifodani soddalashtiring.

A) 1 B) $1+tg\alpha$ C) 2 D) $tg2\alpha$

211. $\sqrt{4+3x} < x$ tengsizlikni yeching.

A) $0 < x < 4$ B) $x > 4$ C) $x < 4$ D) $x \geq 1$

212. Asoslarining radiuslari 3 va 5 ga teng bo'lgan kesik konus va unga tengdosh silindrning balandliklari bir xil. Silindr asosining radiusini toping.

A) $7\sqrt{3}$ B) $\sqrt{16\frac{2}{3}}$ C) $\sqrt{47}$ D) $\frac{7\sqrt{3}}{3}$

213. Stolda 5 ta olma va 3 ta nok yotibdi. Bitta mevani nechta usul bilan tanlash mumkin? A) 8 B) 15 C) 5 D) 3

214. 5 ta ruchka, 3 ta qalam va 4 ta flomaster bor. Ikkita xildagi predmetlardan tashkil topgan nechta to'plamni tuzish mumkin?

A) 47 B) 42 C) 60 D) 24

215. 2×2 o'lchamli kvadrat jadvalning har bir katagini qora yoki oq rangga bo'yash mumkin. Bu jadvalni necha xil usulda bo'yasa bo'ladi?

A) 16 B) 8 C) 24 D) 12

216. Turli 6 ta rangdagi mato bor. Uchta rangdagi gorizontal polosali bayroqni nechta usul bilan tikib bo'ladi?

A) 120 B) 720 C) 240 D) 60

217. Mavjud 7 ta predmetdan 4 ta predmetni nechta usul bilan tanlasa bo'ladi? A) 35 B) 20 C) 28 D) 60

218. "Parabola" so'zi harflaridan nechta har xil "so'z" tuzish mumkin? ("So'z" deganda harflarning istalgan ketma-ketligi tushuniladi)

A) $\frac{8!}{3!}$ B) 2^8 C) 8! D) C_8^7

219. Ifodani soddalashtiring: $\frac{C_{2n}^{n+1}}{C_{2n+1}^{n-1}}$

A) $\frac{n+2}{2n+1}$ B) $\frac{n+1}{2n+1}$ C) $\frac{(n+2)!}{2n+1}$ D) $\frac{(n+2)!}{6!}$

220. Tenglamani yeching: $5C_{2x}^{x+1} = 3C_{2x+1}^{x-1}$, $x \in N$

A) 7 B) 6 C) 5 D) natural yechimlari yo'q

221. 4 xil gullardan necha usul bilan 7 guldan iborat guldasta tuzish mumkin?

A) 120 B) 28 C) 4^7 D) 35

222. Savatda 200 ta qizil, 100 ta oq va 50 ta qora sharlar bor. Tavakkaliga bitta shar olinmoqda. Bu shar oq rangda bo'lishining ehtimolini toping.

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

223. Mergan nishonga qarata o'q uzdi. Uning "10" likni urish ehtimolligi 0,1 ga, "9" likni urish ehtimolligi 0,2 ga va "8" likni urish ehtimolligi 0,4 ga teng. Kamida "8" likni urish ehtimolligi nimaga teng? A) 0,7 B) 0,08 C) 0,5 D) 0,4

224. Ikkita mergan bir-biriga bir-birlaridan mustaqil ravishda bir nishonga qaratib faqat bittadan o'q uzishgan. Ularning nishonga o'q tekkizish ehtimolliklari mos ravishda 0,6 va 0,9 ga teng. Ikkalasi ham nishonga o'q tekkizish ehtimolligini toping.

A) 0,54 B) 0,96 C) 0,46 D) 1,5

225. Ikkita mergan bir-biriga bir-birlaridan mustaqil ravishda bir nishonga qaratib faqat bittadan o'q uzishgan. Ularning nishonga o'q tekkizish ehtimolliklari mos ravishda 0,6 va 0,9 ga teng. Merganlarning kamida bittasi nishonga o'q tekkizish ehtimolligini toping.

B) 0,96 B) 0,54 C) 0,46 D) 1,5

226. Ikkita mergan bir-biriga bir-birlaridan mustaqil ravishda bir nishonga qaratib faqat bittadan o'q uzishgan. Ularning nishonga o'q tekkizish ehtimolliklari mos

ravishda 0,6 va 0,9 ga teng. Merganlarning birortasi ham nishonga o'q tekkizmasligining ehtimolligini toping.

C) 0,04 B) 0,46 C) 0,5 D) 0,54

227. Uchta mergan nishonga bir martadan o'q uzmoqda. Ularning nishonga tegish ehtimolliklari mos ravishda 90%, 80%, 70% ga teng. Uchalasi ham nishonga tegish ehtimolligini toping.

A) 0,3 B) 0,5 C) 0,006 D) 0,504

228.Ushbu $f(x)=\frac{2x+4}{x^2+4x+3}$ funksiyaning boshlang'ich funksiyasini toping.

A) $ln|x+1|+C$ B) $\ln(x+2)+C$ C) $\ln(|x+3|\cdot|x+1|)+C$ D) $\frac{2x^2}{(x+1)(x+2)}+C$

229.Ishchining maoshi ketma-ket ikki marta 15% ga oshirilgandan keyin 793500 so'm bo'ldi. Uning dastlabki maoshi necha so'm bo'lgan?

A) 650000 B) 550000 C) 600000 D) 575000

230.$3^{2x}\cdot x^2+5x-6\le x^2+5x\cdot 3^{2x}-2\cdot 3^{2x+1}$ tengsizlikning eng kichik va eng katta musbat butun yechimlari nisbatini toping.

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

231. Tengsizlikni yeching: $1\ge\left|\frac{2-3x+x^2}{x-1}\right|$

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

232.$f(x)=42cos9x\cdot cos12x$ uchun boshlang'ich funksiyani toping.

A) $-7cos3x-cos21x+C$ B) $7cos3x-cos21x+C$ C) $7sin3x-sin21x+C$ D) $7sin3x+sin21x+C$

233.$F(x)=\frac{1}{18}x^6-\frac{1}{15}x^5+e^{3x}-cos\frac{x}{3}+6$ funksiyaning hosilasini toping.

234.Savatdagi mevalarning 30%i banan va 60%i olma. Tasodifan olingan meva banan yoki olma bo'lishi ehtimolligini toping. J: 0,9

235. Lotincha "Informatio" so'zi nimani anglatadi?

A) ko'rishni ta'minlash
B) xabar berish
C) ma'lumotlar, yangiliklar olish
D) tushuntirish, tavsiflash

236. Faqat arxivlangan fayllar kengaytmasi berilgan javobni ko'rsating.

A) .zip, .jpg, .rar B) .zip, .rar, .arj C) .htm, .arj, .txt D) .avi, .com, .bac

237. MS Excel. A1=10; B1=14; B2=6 bo'lsa, =СУММ(A1-B2;A2-B1) funksiyaning javobi 4 ga teng bo'lishi uchun A2 katakda qanday son bo'lishi kerak?

A) 14 B) 17 C) 15 D) 16

238. Qanday aloqa tarmog'i internet tarmog'ining yaratilishiga asos bo'lib hisoblangan?

A) ARPANet B) IntraNet C) InfoNet D) WWW

239. Paskal tilida quyidagi dastur lavhasi bajarilgach b o'zgaruvchi qiymatini aniqlgang:

x:= -1; y:= -1; a:= 0.1; IF(x*x+y>0) AND (a=1/10) THEN b:=true else b:=false;

A) false B) -1 C) true D) 1

240. Elektron soat ekranida ikkita raqam (00 dan 23 gacha) va minut ikkita raqam (00 dan 59 gacha) ko'rsatadi. 00:01 dan 23:59 gacha bu soat necha marta chapdan o'ngga va o'ngdan chapga o'qiganda bir xil bo'lgan vaqtni ko'rsatadi?

A) 10 B) 18 C) 24 D) 15

241. $x^2+\frac{1}{x^2}-3\left(x+\frac{1}{x}\right)-2=0$ tenglamaning ildizlari yig'indisini toping.

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

242. M(2,75; 3,25) nuqtadan o'tuvchi va $\overline{m}$(4; -2) vektorga perpendikulyar bo'lgan to'g'ri chiziq tenglamasini toping.

A) 4x+2y-4,5=0 B) 4x-2y-4,5=0 C) 4x-2y+4,5=0 D) 4x+2y+4,5=0

243. 6 nafar mehmonni 6 ta stulgan o'tkazish variantlari nechta?

A) 6 B) 180 C) 720 D) 300

244. $x^2+14x+y^2-10y+38=0$ tenglama bilan berilgan aylana uzunligini toping.

A) 13π B) 14π C) 10π D) 12π

245. $2\log_{sin2x}cos^2x-4+5\log_{cos^4x}sin2x=0$ tenglamani yeching.

A) –arcctg2+kπ B) arcctg$\sqrt{2}$+2kπ C) arcctg2+2kπ D) arcctg2+kπ

246. $\sqrt[3]{x^{log_3 \sqrt[3]{x}}} > 3$ tengsizlikning yechimi bo'lmaydigan eng katta natural sonning $\frac{1}{3}$ qismini hisoblang.

A) 9 B) 10 C) $\frac{28}{3}$ D) 8

247. Silindrning balandligi H ga teng. Uning yon sirti yoyilganda balandligi bilan diagonali 60^oli burchak tashkil qilsa, silindrning hajmini toping.

A) $\frac{H^3}{3\pi}$ B) $\frac{3H^3}{4\pi}$ C) $\frac{3H^3}{2\pi}$ D) $6\pi H^3$

248. {x|x∈N, 2≤x²≤43} to'plamning nechta qism-to'plamlari mavjud?

A) 43 B) 16 C) 5 D) 32

249. Ox o'qidan 7 marta, Oy o'qidan 2 marta cho'zish orqali y=f(x) funksiya grafigidan qaysi funksiya grafigi hosil qilinadi.

A) $y = 7f(2x)$ B) $\frac{f(2x)}{7}$ C) $y = 7f(\frac{x}{2})$ D) $y = \frac{f(\frac{x}{2})}{7}$

250. Agar $4x^2y + 4xy^2$ va $x^3 + y^3 = 9$ bo'lsa, $x + y$ ni toping.

A) 1 B) 9 C) $\sqrt{3}$ D) 3

251. Agar f(x)=ax va g(x)=x+b funksiyalardan f(g(x))=x+2 funksiya tuzilgan bo'lsa, b-a ning qiymatini toping.

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

252. Uchburchakka radiusi 1,4 bo'lgan ichki chizilgan aylananing markazidan uchburchak tekisligiga perpendikulyar chiqarilgan bo'lib, uning uchidan uchburchak tomonlarigacha bo'lgan masofa 5 ga teng. Perpendikulyarlarning uzunligini toping.

A) 4,8 B) 4 C) 5 D) 2,8

253. a ning qanday qiymatlarida *3-5x=2(2a-3x)* tenglamaning ildizlari beshdan katta emas?

A) $a \geq 2$ B) $a < 2$ C) $a \leq 2$ D) $a < 5$

254. To'g'ri burchakli uchburchakda o'tkir burchaklarining medianalari uzunliklari $6\sqrt{5}$ va 15 ga teng. Gipotenuza uzunligini toping.

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

255. Uchburchakning ikkita burchagi mos ravishda 38^o va 52^o ga teng. Uchinchi burchak uchidan tushirilgan bissektrisa va mediana orasidagi burchakni toping.

A) 10^o B) 14^o C) 7^o D) 17^o

256. $F(x) = 0,(3)x^5 + 0,(4)x^3 - 0,(5)x^2 + ctg0,(2)x - (0,(1))^x$ funksiyaning hosilasini toping.

257. m ning qanday qiymatlarida $\frac{m-2x}{2} = \frac{mx-1}{3}$ tenglamaning ildizlari mavjud emas.

258. Radiusi 6 ga teng doiradan, markaziy burchagi 60^o ga teng doiraviy sektor qiriqib olindi va unga aylana ichki chizildi, ya'ni aylana sektor tomonlariga va yoyiga urinadi. Shu aylanaga ichki chizilgan muntazam uchburchak yuzi topilsin.

259. Teng yonli trapetsiyaning katta asosi 2,7 m, yon tomoni 1 m, ular orasdigi burchagi 60^o. Kichik asosini toping.

260. sinxtgx+1 > sinx + tgx tengsizlikni yeching.

261. ABC uchburchakka ichki chizilgan aylana AB, BC va AC tomonlarga mos ravishda P, Q va R nuqtalarda urinadi. Agar BC=12 sm, AB=10 sm va AC=5sm bo'lsa, CQ ni toping.

262. $\vec{a} = 2\vec{\imath} + 3\vec{\jmath} - \vec{k}$ va $\vec{b} = -2\vec{\imath} - 3\vec{\jmath}$ vektorlar erilgan. $|\vec{a} + \vec{b}|$ ni toping.

263. $\frac{1+cos3\alpha+cos2\alpha+cos\alpha}{2cos^2\alpha+cos\alpha-1}$ ifodani soddalashtiring.

A) $2sin\alpha$ B) $2cos\alpha$ C) $cos\alpha$ D) 1

264. $y = \log_{\frac{3}{2}}|6x - 8|$ funksiyaning aniqlanish sohasini toping

265. Akvariumning bo'yi 110 sm, eni 70 sm, balandligi 60 sm. Soy sathi yuqoridan 10 sm pastda bo'lishi uchun akvariumga necha litr suv quyish kerak?

A) 312 B) 462 C) 385 D) 38,5

266. 2589,7 sonini standart shaklda yozing.

267. $\vec{a}(2; -2; 6)$ vektor berilgan bo'lib, $\vec{c}$ vektor $\vec{a}$ vektor bilan kollinear va $\vec{a} \cdot \vec{c} = -66$ shartni qanotlantiradi. $\vec{c}$ vektorning uzunligini toping.

268. Axborot uzatish birligi sifatida … qabul qilingan.

A) 1 bit B) 1 megabit C) 1 bayt D) 1 bod

269. Ikkilik sanoq sistemasida amallarni bajaring:

$$10101 \cdot (1 \cdot 2^5 + 1 \cdot 2^4 + 1 \cdot 2^2 + 1 \cdot 2^0)$$

A) 110011010001 B) 11010001101 C) 11011001111 D) 11011001001

270. Aniq bir predmet sohasi bo'yicha masalalar yechishga mo'ljallangan dasturlar majmuasi bu –

A) tizim(sistema)li dasturiy ta'minot

B) amaliy dasturiy ta'minot

C) yordamchi dasturiy ta'minot

D) dasturlar yaratish vositalari

271. Faqat antivirus dasturlari yozilgan javobni ko'rsating.

A) McAfee, MS DOS

B) AVP Platinium, MS Access

C) Borland Delphi, Norton Antivirus

D) Nod 32, Aidstest

272. Quyidagi Paskal dasturi lavhasi bajarilishi natijasida qora fonli ekranda nechta shakl aks etadi:

For k:=0 to 4 do begin Setcolor(k+1); Circle(100, 50, 25); end;

A) 5 ta B) 1 ta C) 0 ta D) 4 ta

273. $\frac{\sqrt{x+1}}{\log_4|x-2|} \geq 0$ tengsizlikni qanoatlantiruvchi eng kichik butun son bilan eng kichik natural sonlar yig'indisini toping.

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

274. Agar $1 + 2f(x-1) = 2f(x)$ va $f(0) = 0$ bo'lsa, $f(2014)$ ni toping.

A) 1008 B) 2013 C) 2014 D) 1007

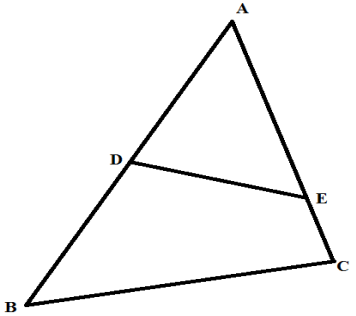
275. Geometrik progressiyada 5+15+45+…+1215 yig'indini hisoblang.

A) 1820 B) 1720 C) 1920 D) 1840

276. $f(x) = x^3 - 7x^2 + 8x + 12$ ko'phad quyidagilardan qaysi biriga qoldiqsiz bo'linadi?

A) $x+3$ B) $x+2$ C) $x-3$ D) $x-1$

277. Rasmda berilgan ma'lumotlarga ko'ra, EC ning qiymatini toping. Bu yerda, $\angle ADE = \angle ACB$ va $BD = 7, AD = 5, AE = 6$.



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

278. 4 megabayt necha baytga teng?

A) 2^{23} B) $4 \cdot 2^{21}$ C) 2^{22} D) 2^{21}

279. 1 ta anoq og'irligi 1 ta nok va 2 ta olma og'irligiga, 1 ta anor va 1 ta olma og'irligi 2 ta nok og'irligiga teng bo'lsa, nechta olma og'irligi 1 ta anor og'irligiga teng?

A) aniqlab bo'lmaydi B) 5 ta olma C) 3 ta olma D) 4 ta olma

280. BIOS kompyuterning qaysi xotirasida joylashgan bo'ladi?

A) doimiy xotira qurilmasida B) vinchesterda C) CD-ROM da D) tezkor(operativ) xotira qurilmasida

281. Microsoft Excel dasturida quyidagi formulaning natijasini toping:

=Срзнач(Корень(16); 2; Длстр(3,1415))

A) 6 B) 5 C) 4 D) 3

282. HTML tilida jadvaldagi ustunlarni birlashtirish uchun <TH> tegida qanday parametr qo'llaniladi?

A) COLSPAN B) ROWSPAN C) BORDERCOLOR D) CAPTION

283. Paskal tilida quyidagi dastur lavhasi bajarilgach S o'zgaruvchi qiymatini aniqlang: A:=12345; S:=0; While a>1 do begin S:=S*a mod 10; a:=a div 10; end; Write(S);

A) 15 B) 2345 C) 0 D) 120

284. ABC uchburchakda A burchak to'g'ri. B uchidan AC tomonga BD chiziq o'tkazilgan. AD=1, DC=5 va AB=2. ABD va ACB burchaklar yig'indisini toping.

A) 30^o B) 45^o C) 60^o D) 75^o

285. Quyidagilardan qaysi biri axborot turi hisoblanadi?

A) grafikli, tovushli B) uzlukli, uzluksiz C) karrali, dolzarb D) tushunarli, ishonchli

286. $\frac{(x-5)\sqrt{27+6x-x^2}}{|x+2|} \leq 0$ tengsizlikni yeching.

A) [-3;-2)U(-2;5] B) (-2;5] C) [-3;5] D) [-3;-2]

287. Tenglik o'rinli bo'lishi uchun sonlarning asosi qanday bo'lishi kerak? $26123_{(x)}=30333_{(x)}-3210_{(x)}$

A) Yettilik B) Sakkizlik C) Oltilik D) To'qqizlik

288. Kompyuterga o'rnatilgan dasturiy ta'minotni o'chirish jarayoni … deyiladi?

A) deinstallyatsiya B) defragmentatsiya C) installyatsiya D) arxivlash

289. MS Excel. A1=2; A2=-18; A3=15 ga teng bo'lsa, …(A1;A3-A2)=-0,5 tenglik o'rinli bo'lishi uchun nuqtalar o'rnida qaysi funksiya qo'llangan bo'lishi kerak?

A) СУММ B) ОСТАТ C) СРЗНАЧ D) СТЕПЕНЬ

290. Web brauzerda matnning ko'rinishi quyidagicha bo'lishi uchun uning HTML kodi qanday bo'lishi kerak?

Kvadrat tenglama $ax^4+bx+c=0$ ko'rinishida bo'lmaydi?

291. Paskal tilida quyidagi takrorlash operatoridagi takrorlanishlar sonini aniqlang: I:=2014; While i<=1997 do i:=i-1

A) 18 B) 17 C) 1 D) 0

292. $\cos(2arccos0,(333))$ ni hisoblang

A) $\frac{2}{9}$ B) $-\frac{4}{9}$ C) $\frac{2}{3}$ D) $-\frac{7}{9}$

293. Uchburchakning uchlari to'g'ri burchakli dekart koordinatalari sistemasida quyidagicha berilgan: A(0;0), B(1;-4), C(1;0). Uchburchakning yuzini toping.

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

294. 12 ga karrali, 403 dan katta bo'lmagan barcha natural sonlar yig'indisini toping. A) 6732 B) 6708 C) 6756 D) 6720

295. $f(x)=24sin5x\cdot cos7x$ uchun boshlang'ich funksiyani toping.

296. Yarim perimetri 12 ga, gipotenuzasi 10 ga teng bo'lgan to'g'ri burchakli uchburchakka ichki chizilgan aylana radiusini toping

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

297. $|x-2|^{10x^2-3x-1}=1$ tenglamani yeching.

298. Tomonlari 3 va 7 ga teng bo'lgan to'g'ri to'rtburchakni kichik tomoni atrofida aylantirish natijasida hosil bo'lgan jismning to'la sirtini toping.

A) 150π B) 135π C) 130π D) 140π

299. Agar $y=kx-2$ funksiyaning grafigi A(1;2) nuqtadan o'tsa, k ning qiymatini toping.

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

300. $\alpha=7{,}5^o, a=(tg\alpha)^{tg\alpha}, b=(tg\alpha)^{ctg\alpha}, c=(ctg\alpha)^{tg\alpha}, d=(ctg\alpha)^{ctg\alpha}$ bo'lsa, quyidagilardan qaysi biri o'rinli?

A) $d>a>c>b$ B) $d>c>a>b$ C) $d>c>b>a$ D) $c>d>a>b$

301. Agar $\vec{a}(\sqrt{27};2\sqrt{3};-6)$ va $\vec{b}(\sqrt{20};-\sqrt{6};6\sqrt{2})$ berilgan bo'lsa, $\frac{\vec{a}}{\sqrt{3}}\cdot\frac{\vec{b}}{\sqrt{2}}$ ni toping.

A) $3\sqrt{10}-14\sqrt{3}$ B) $14\sqrt{3}-3\sqrt{10}$ C) $14\sqrt{3}-2\sqrt{10}$ D) $3\sqrt{10}+14\sqrt{3}$

302. $2\log_2\left(\sqrt{4x+5}-1\right)>\log_2(\sqrt{4x+5}+11)$ tengsizlikning yechimi bo'lmaydigan natural sonlar yig'indisini toping.

A) 6 B) 15 C) 10 D) 21

303. $\log_7(x-5)(x^2-19x+88)\geq 0$ tengsizlikni yeching.

A) [6;8]U[11;∞) B) [6;8] C) [8;11] D) [11;∞)

304. $y=2cos6x-cos12x$ funksiyaning hosilasini toping.

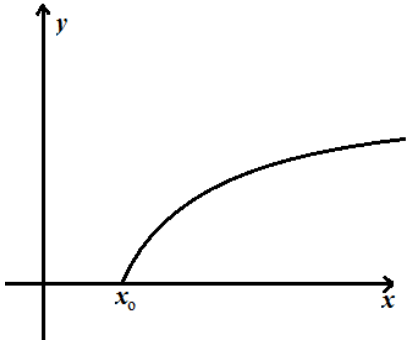
A) $24sin3x\cdot cos9x$ B) $24cos3x\cdot cos9x$ C) $24sin3x\cdot sin9x$ D) $-24cos3x\cdot sin9x$

305. Uchta tanga tashlanmoqda. Ikkita gerb va bitta raqam tushishi ehtimolligini toping.

A) 0,125 B) 0,375 C) $\frac{3}{2}$ D) $\frac{1}{3}$

Rustam Bosimov

306. Rasmda $y = a\sqrt{bx+c} + d$ funksiya grafigi tasvirlangan va $y = 0$ uning eng kichik qiymati bo'lsa, quyidagilardan qaysi biri doim o'rinli?



A) $a(b-c) > 0$ B) $a(c-d) > 0$ C) $a(c+d) > 0$ D) $a(b+d) < 0$

307. $\sqrt{sin^4\alpha + 5cos^2\alpha} - \sqrt{cos^4\alpha + 4sin^2\alpha}$ ifodaning $\alpha = 15°$ bo'lganda qiymatini toping.

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

308. $y = x^3 - 3x^2 + 2x - 7$ funksiyaning $x = 2$ nuqtadagi burchak koeffitsiyentini toping.

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

309. Rombning tomoni 10 ga, o'tkir burchagi 45^o ga teng. Rombning yuzini toping.

A) $80\sqrt{2}$ B) $90\sqrt{2}$ C) $50\sqrt{2}$ D) $45\sqrt{2}$

310. $|x-8| = \frac{x}{2} + a$ tenglama a parametrning nechta natural qiymatida yechimga ega emas?

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

311. Prizmaning qirralari soni 63 ga teng bo'lsa, uning yoqlari sonini toping.

312. 2589,7 sonini standard shaklda ifodalang.

313. $tgx + tg\left(\frac{\pi}{4} + x\right) < -2$ trigonometrik tengsizlikni yeching.

314. $2^{18} \cdot 4^9 \cdot 5^{55} \cdot 8^6$ ko'paytma necha xonali son bo'ladi?

315. Teng yonli uchburchakning asosi 16 ga, yon tomoni esa 10 ga teng. Bu uchburchakga ichki va tashqi chizilgan aylanalarning markazlari orasidagi masofani toping.

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

316. Tenglik o'rinli bo'lishi uchun sonlarning asosi qanday bo'lishi kerak: $5_x * 4_x = 22_x$

A) Oltilik B) To'qqizlik C) Sakkizlik D) Yettilik

317. Qaysi javobda faqat qobiq dasturlar keltirilgan?

A) Norton Commander, MS DOS, Volkov Commander

B) Total Commander, Norton Commander

C)Vista, DOS3,3, Total Commander

D) Linux, Norton Commander

318. MS Excel. A1=2, A2=18, A3=-15 ga teng bo'lsa, ….(A1; A3+A2)=2,5 tenglik o'rinli bo'lishi uchun nuqtalar o'rnida qaysi funksiya qo'llangan bo'lishi kerak?

A) СТЕПЕНЬ B) СРЗНАЧ C) ОСТАТ D) СУММ

319. Web brauzerda matnning ko'rinishi quyidagicha bo'lishi uchun uning HTML kodi qanday bo'lishi kerak?

6. Chala kvadrat tenglama *ax⁴+c=0* ko'rinishida bo'lmaydi.

*Javob: <ol start="6">
Chala kvadrat tenglama ax⁴+c=0 ko'rinishida bo'lmaydi.
*

320. $\vec{a}(-5;12)$ vektorning unga yo'nalishdosh bo'lgan birlik vektor bilan skalyar ko'paytmasini toping.

A) 0 B) 5 C) -5 D) 13

321. Muntazam parallelepipedning diagonali yon yog'I bilan 30^o li burchak tashkil etsa, uning hajmini toping. Paralleliped yon yog'ining diagonali $\sqrt{6}$ ga teng.

A) $4\sqrt{3}$ B) 4 C) 8 D) $2\sqrt{6}$

322. Tengsizlikni yeching:

$$log_2(x+3) \geq log_{\frac{1}{2}}(x-4) + \log_2(2x^2 - 11x + 12)$$

A) (2;3) B) (4;5) C) (2;6) D) (4;6]

323. $y=\frac{2}{3}x^3-\frac{3}{2}x^2-\frac{1}{2}x+\frac{1}{3}$ funksiyaning x=1 nuqtadagi burchak koeffitsiyentini toping.

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

324. To'g'ri burchakli uchburchakning bir kateti 18 ga teng. Uning medianalari kesishish nuqtasidan ikkinchi katetigacha bo'lgan masofani toping.

A) 4 B) 6 C) 5 D) 8

325. $ctg6\alpha\cdot\frac{sin10\alpha+sin2\alpha}{cos10\alpha+cos2\alpha}$ ni soddalashtiring.

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

326. $log^2_{\frac{1}{5}}(9-x^2)-2\log_{\frac{1}{5}}(9-x^2)-8\le 0$

327. $y=cos2\pi+4cos^4x-4cos^3x$ funksiyaning eng kichik musbat davrini toping.

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

328. O'suvchi arifmetik progressiyaning dastlabki uchta hadi yig'indisi 21 ga teng. Bu hadlarga mos ravishda 1;1;5 qo'shilsa, geometrik progressiya hosil bo'ladi. Shu geometrik progressiyaning dastlabki 8 ta hadi yig'indisini toping.

A) 1020 B) 1012 C) 1016 D) 1024

329. Trapetsiyaning asoslari 11 va 5 ga teng. Trapetsiyaning asoslariga parallel bo'lib, uning yuzini teng ikkiga bo'luvchi kesam uzunligini toping.

A) 8 B) $\sqrt{73}$ C) 9 D) $2\sqrt{7}$

330. Poyezd 4 minutda 10 kilometr masofani, motosikl 6 minutda 10 kilometr masofani bosib o'tadi. Motosiklchining tezligi poyezd tezligining necha foizini tashkil etadi?

A) $67\frac{2}{3}\%$ B) $73\frac{1}{3}\%$ C) $66\frac{2}{3}\%$ D) 70%

331. A nuqtadan tekislikka perpendikulyar bo'lgan 2 ta og'ma o'tkazilgan. Ulardan biri 8 ga, ikkinchisi uning 75% ga va bu nuqtadan tekislikgacha bo'lgan masofa 4,8 ga teng bo'lsa, ularning tekislikdagi proyeksiyalarini toping.

A) 3,5 va 6,5 B) 3,6 va 6,4 C) 3,3 va 6,6 D) 3,2 va 5,8

332. Hisoblang: $C_8^6\cdot P_2$

333. $y=2^{kx^2-5}$ funksiya grafigi k ning qanday qiymatida $N(2;8)$ nuqtadan o'tadi?

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

334. Hisoblang: $tg(arctg3+arcsin\frac{2\sqrt{5}}{5})$

335. Agar $sin2\alpha=\frac{1}{2}$ va $\alpha\in(\frac{\pi}{4};\frac{\pi}{2})$ bo'lsa, $cos3\alpha$ ni hisoblang.

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

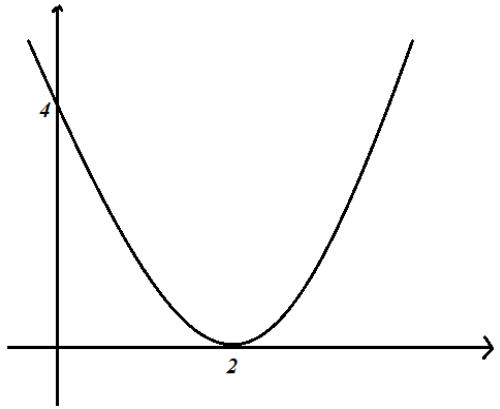
336. Tomonlari 3 va 7 ga teng bo'lgan to'g'ri to'rtburchakni kichik tomoni atrofida aylantirish natijasida hosil bo'lgan jismning to'la sirtini toping.

337. Hikmat bobo qurib qolganligi sababli hovlisidagi 108 qop yong'oqni omborga tashish uchun nevaralarini ishga chaqirdi. Nevaralari kelib juft-juft bo'lib bo'linishdi va har bir juftlikka 3 ta qop to'g'ri keldi. Hikmat boboning nechta nevarasi ishga kelgan.

A) 72 B) 36 C) 86 D) 48

338. Tenglamani yeching: $2tg^2x+3tgx-2=0$

339. Rasmda $y=ax^2-bx+4$ funksiyaning grafigi tasvirlangan bo'lib, berilgan ma'lumotlarga ko'ra $a+b$ ni hisoblang.



A) 5 B) -3 C) 6 D) -4

340. $3\cdot4^{x^2-x}-30\cdot2^{x^2}+3\cdot2^{2x+4}=0$ tenglamaning ildizlari ko'paytmasini toping.

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

341. Hisoblang: $(1+tg8^o)(1+tg9^o)(1+tg36^o)(1+tg37^o)$

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

342. Bir terabayt necha gegabaytga teng?

A) 2^{25} gigabayt B) 2^{10} gigabayt C) 2^{20} gigabayt D) 2^{30} gigabayt

343. Quyidagi mantiqiy tenglamaning yechimlari sonini aniqlang:

¬A V B Λ C = yolg'on

A) 5 B) 4 C) 1 D) 3

344. $\frac{2}{3}cos2\pi = \log_{3\sqrt{3}}\frac{1}{x}$ tenglamadan x ni toping.

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

345. $x^2-4x+y^2+6y=12$ tenglama bilan berilgan aylana radiusini toping.

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

346. Agar $sin\frac{\pi}{2}\cdot cos\alpha = -\frac{3}{5}$ va $\pi cos7\pi < \alpha < -\frac{\pi}{2}$ bo'lsa, $tg\alpha$ ni toping.

A) $1,(3)sin\frac{\pi}{2}$ B) $\pm\frac{4}{3}$ C) $-\frac{3}{4}$ D) $\frac{4}{3}sin\frac{3\pi}{2}$

347. $arctg3+arctg2+arctg1$ ni hisoblang.

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

348. Agar $|x+10| = \frac{x}{2}+a$ tenglama 2 ta yechimga ega bo'lsa, a ning eng kichik butun qiymatini toping

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

349. $\log_{x-1}(3-x) \geq 0$ tengsizlikni yeching.

350. $\{x|x\in N, 2\leq x^2\leq 43\}$ to'plamning nechta qism to'plamlari mavjud?

A) 16 B) 32 C) 43 D) 5

351. Tengsizlikni yeching: $\sqrt{7x+30} > x+6$

A) $-3<x<-2$ B) $\emptyset$ C) $-3<x\leq 0$ D) $-3\leq x<0$

352. $\frac{5}{2} = \sqrt[4]{\frac{x-2}{x+3}} + \sqrt[4]{\frac{x+1}{x-2}}$ tenglama ildizlari yig'indisini toping.

A) 1 B) 2 C) 5 D) 6

353. $3cos2x - 3\sqrt{3}sin2x > 0$ tengsizlikni yeching.

354. $y = 3cosx - cos3x$ funksiya hosilasini toping.

355. $3,(5)$; x; $0,(8)$... cheksiz kamayuvchi geometrik progressiyaning hadalari yig'indisini toping.

356. $f(x) = 48sin9x\cdot cos15x$ uchun boshlang'ich funksiyani toping.

357. Hisoblang: $tg(-3,1\pi)\cdot\cos(-0,9\pi) - sin5,6\pi\cdot ctg4,4\pi$

358. m ning qanday qiymatlarida $\frac{m-2x}{2} = \frac{mx-1}{3}$ tenglamaning ildizlari mavjud emas.

359. $\sin2x+9\cos^2x - 1 \leq 0$ tensizlik x ning qanday qiymatlarida o'rinli? ($x\in[0;2\pi]$)

A) [arctg2;π] B) [π+arctg4;2π-arctg2] C) [arctg4; π-arctg2] D) [arctg4;π-arctg2]U[π+arctg4;2π-arctg2]

360. Aylanani 5, 7, 13, 15 sonlariga proporsional yoylarga bo'lganda, ularning eng katta va eng kichik burchaklari ayirmasini toping.

361. Agar arifmetik progressiyada $\begin{cases} a_1+a_2+a_3+a_4 = 18 \\ a_4^2 - a_1^2 = 54 \end{cases}$ bo'lsa, ayirmani toping.

362. $f(x) = 72cos7x\cdot sin11x$ uchun boshlang'ich funksiyani toping.

363. $F(x) = 2cos3x - cos6x$ funksiya hosilasini toping.

364. y=lgcosx funksiyaning aniqlanish sohasini toping.

365. Muntazam parallelepipedning diagonali yon yog'I bilan 30^o li burchak tashkil etsa, uning hajmini toping. Parallelipiped yon yog'ining diagonali $\sqrt{6}$ ga teng.

366. $y = 1-x^2$; $y = -x-1$ chiziqlar bilan chegaralangan shaklning yuzini toping.

367. $\sqrt[6]{x^2-1} = \sqrt[3]{x-1} + \sqrt[3]{x+1}$ tenglama nechta haqiqiy ildizga ega.

368. Ox o'qidan 2 marta, Oy o'qidan k marta cho'zish orqali y=f(x) funksiya grafigidan qaysi funksiya grafigi hosil qilinadi?

A) $y = 2f(\frac{x}{k})$ B) $y = 2f(kx)$ C) $y = \frac{f(kx)}{2}$ D) $\frac{f(\frac{x}{k})}{2}$

369.