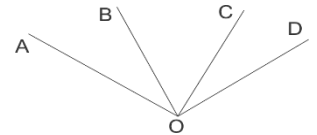


**1-qism: Har bir topshiriq 0,9 balldan baholanadi**

- Hisoblang  $\left(1\frac{3}{4}; 1,125 - 1,75; \frac{2}{3}\right) \cdot 1\frac{5}{7}$  A)  $-1\frac{7}{12}$  B)  $-1\frac{1}{4}$  C)  $-1\frac{5}{6}$  D)  $-1\frac{1}{3}$
- Soddalashtiring:  $\frac{27a^3-64b^3}{b^2-4} : \frac{9a^2+12ab+16b^2}{b^2+4b+4}$   
A)  $\frac{(3a-4b)(b+2)}{b-2}$  B)  $\frac{(3a-4b)(b-2)}{b+2}$  C)  $\frac{(3a+4b)(b+2)}{b-2}$  D)  $\frac{(3a+4b)(b-2)}{b+2}$
- Agar  $3x - y = 7$  va  $5x + 4y = 21$  bo'lsa,  $24x + 9y$  ni hisoblang.  
A) 90 B) 78 C) 69 D) 84
- Chizmada  $\angle AOD = 120^\circ$ ,  $\angle BOD = 3\angle AOB$  va  $\angle AOC = 2\angle COD$  bo'lsa,  $\angle BOC$  burchak nimaga teng? A)  $45^\circ$  B)  $50^\circ$  C)  $60^\circ$  D)  $30^\circ$
- Soddalashtiring:  $\sqrt{-4a} - \sqrt[3]{-8a} - \sqrt{-9a} - 2\sqrt[3]{a}$   
A)  $-5\sqrt{a}$  B)  $-\sqrt{-a} - 4\sqrt[3]{a}$  C)  $-\sqrt{-a}$  D)  $-4\sqrt[3]{a}$
- Tenglamani yeching:  $\frac{20-x}{20} - \frac{22-x}{22} = \frac{20+x}{22} - \frac{22+x}{20}$  A) 0 B)  $\frac{29}{220}$  C)  $\frac{10}{11}$  D)  $\emptyset$
- $a$  parametrlarning qanday qiymatlarida  $9 + 3a$ ,  $5 - 2a$  va  $15 - 5a$  uzunlikdagi kesmalardan uchburchak yashash mumkin? A) (0; 2,5) B)  $\left(\frac{1}{6}; 1,5\right)$  C)  $\left(\frac{1}{6}; 1,1\right)$  D)  $\left(\frac{1}{3}; 1,2\right)$
- Soat strelkasi 5 soat vaqt o'tgandan keyin qanday burchakka buriladi?  
A)  $120^\circ$  B)  $100^\circ$  C)  $160^\circ$  D)  $150^\circ$
- Uchlari  $A(2; -3)$ ,  $B(6; 0)$ ,  $C(6; 2)$  va  $D(2; 2)$  nuqtalarda bo'lgan  $ABCD$  to'rtburchak yuzini toping.  
A) 14 B) 18 C) 16 D) 12
- Agar  $a + b - 2c = 0$  bo'lsa,  $\frac{a}{a-c} + \frac{b}{b-c}$  ni hisoblang. A) 0 B) 1 C) 2 D) 3


**2-qism: Har bir topshiriq 1,5 balldan baholanadi**

- Soddalashtiring:  $\frac{a^2-ac-bc-b^2}{a^2+ac+bc-b^2}$  A)  $\frac{a+b}{a-b}$  B)  $\frac{a-b}{a+b}$  C)  $\frac{a-b+c}{a+b-c}$  D)  $\frac{a-b-c}{a-b+c}$
- ABC uchburchakning AE va BF medianalari P nuqtada kesishadi. Agar ABC uchburchak yuzi 36 bo'lsa, PECF to'rtburchak yuzini toping. A) 12 B) 18 C) 9 D) 6
- $\frac{16-x^2}{x+4} - \frac{x^2-9}{3-x} < 10$  tengsizlikning  $(-5; 5)$  oraliqda nechta butun yechimi mavjud?  
A) 7 B) 8 C) 9 D) 10
- Agar  $ac < 0$  bo'lsa,  $y = ax^2 - bx + c$  funksiya grafiqi koordinatalar tekisligining qaysi choraklaridan o'tadi? A) I,II,III B) II, III, IV C) I, III, IV D) BO BCX
- Anvar 2 dan boshlab barcha natural sonlarni doskaga yozdi. U yozayotganda to'la kub bo'lgan sonlarni qoldirib ketdi (8, 125 kabi). Doskaga 2186-o'rinda yozilgan sonni toping.  
A) 2200 B) 2199 C) 2198 D) 2197



16.  $x_0$  haqiqiy son  $x^3 + 1 = (x^2 - x - 1)^2 - 4$  tenglama ildizi bo'lsa,  $(x_0 - 1)^2$  ni toping.

- A) 2                      B) 3                      C) 5                      D) 7

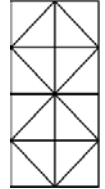
17.  $ABCD$  to'rtburchakda:  $AB = CD, BC = AD$ . Agar  $A$  burchak  $B$  burchakdan 4 marta katta bo'lsa, to'rtburchakning  $A$  burchagini toping. A)  $124^\circ$                       B)  $144^\circ$                       C)  $132^\circ$                       D)  $148^\circ$

18. Chizmadagi uchburchaklar sonini toping.

- A) 24                      B) 28                      C) 30                      D) 26

19.  $f(x) = ax + b$  funksiya grafigi  $A(-1;3)$  va  $B(1;7)$  nuqtalar orqali o'tadi.

- $f(4 - f(-1))$  ni toping                      A) 10                      B) 9                      C) 12                      D) 7



20. Ikkinchi raqami uchinchi raqamidan 4 marta katta, birinchi raqami esa ikkinchi raqamidan 3 ta kam bo'lgan uch xonali sonlar nechta? A) 1                      B) 2                      C) 3                      D) 4

**3-qism: Har bir topshiriq 2,6 balldan baholanadi**

21. Ikkinchi raqami uchinchi raqamidan 1 ta kam bo'lgan uch xonali sonlar sonini toping.

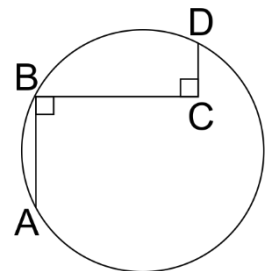
22. Hisoblang:  $\left(\frac{1^2}{1 \cdot 3} + \frac{2^2}{3 \cdot 5} + \frac{3^2}{5 \cdot 7} + \dots + \frac{10^2}{19 \cdot 21}\right) \left(2 - \frac{1}{11}\right)$

23. Agar  $\frac{1}{a^2-2} + \frac{1}{a^2+2} = 0,5$  bo'lsa,  $20 \cdot \left(\frac{1}{a^2-2a+2} + \frac{1}{a^2+2a+2}\right)^2$  ning qiymatini toping.

24. Agar  $AB = 12, BC = 14, CD = 2$  bo'lsa, aylana radiusini aniqlang.

25. Soddashtiring  $\left(\sqrt{6} + \sqrt{2} - \frac{\sqrt{3} + 3\sqrt{2} + \sqrt{6} + 1}{\sqrt{2} + 2\sqrt{3} + \sqrt{6} + 1} - 1\right) \cdot \sqrt{12}$

26.  $-16 \leq 2(y - 7) \leq 0$  va  $-7 \leq x \leq 8$  bo'lsa,  $x^2 - y^2$  ifodaning eng kichik qiymatini toping.



27. Raqamlari yig'indisi 2 ga teng bo'lgan o'n xonali natural sonlar nechta?

28.  $a = 0,12(12), b = 0,1(21), c = 0,12(11)$ . Agar  $a + b + c = 0, x_1 x_2 x_3 x_4 \dots x_{2021} x_{2022} x_{2023} \dots$  bo'lsa,  $x_{2022}$  ni toping (bunda,  $x_1, x_2 \dots$  raqamlar).

29. Oila erkak kishi, uning ayoli va talaba qizidan iborat. Agar erkak kishining maoshi 2 barobar ohsa, u holda oila daromadi 67% ga ortadi, agar talaba qizning stipendiyasi 3 barobar kamaysa, oila daromadi 4% ga qisqaradi. Ayolning maoshi oila daromadining necha foizni tashkil qiladi?

30. Ikki son o'rtasidagi  $\Delta$  operatsiyasiga ko'ra quyidagi natijalar olindi:

$$5 \Delta 2 = 74$$

$$3 \Delta 3 = 66$$

$$5 \Delta 4 = 98$$

$$9 \Delta 11 = 2022$$

$12 \Delta 1$  operatsiya natijasini toping.

