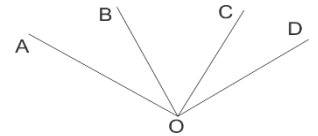


**1-qism: Har bir topshiriq 0,9 balldan baholanadi**

1. Hisoblang  $\diamond 1\frac{3}{4} : 1,125 - 1,75 : \frac{2}{3} \cdot 1\frac{5}{7}$     A)  $-1\frac{7}{12}$     B)  $-1\frac{1}{4}$     C)  $-1\frac{5}{6}$     D)  $-1\frac{1}{3}$
2. Soddashtiring:  $\frac{27a^3-64b^3}{b^2-4} : \frac{9a^2+12ab+16b^2}{b^2+4b+4}$   
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)  $\frac{(3a+4b)(b-2)}{b+2}$
3. Agar  $3x - y = 7$  va  $5x + 4y = 21$  bo'lsa,  $24x + 9y$  ni hisoblang.  
A) 90    B) 78    C) 69    D) 84
4. 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)  $30^\circ$
5. Soddashtiring:  $\sqrt{-4a} - \sqrt[3]{-8a} - \sqrt{-9a} - 2\sqrt[3]{a}$   
A)  $-5\sqrt{a}$     B)  $-\sqrt{-a} - 4\sqrt[3]{a}$     C)  $-\sqrt{-a}$     D)  $-4\sqrt[3]{a}$
6. 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)  $\emptyset$
7.  $a$  parametrning qanday qiymatlarida  $9 + 3a$ ,  $5 - 2a$  va  $15 - 5a$  uzunlikdagi kesmalardan uchburchak yashash mumkin?    A) (0; 2,5)    B)  $\diamond \frac{1}{6}; 1,5 \diamond$     C)  $\diamond \frac{1}{6}; 1,1 \diamond$     D)  $\diamond \frac{1}{3}; 1,2 \diamond$
8. Soat strelkasi 5 soat vaqt o'tgandan keyin qanday burchakka buriladi?  
A)  $120^\circ$     B)  $100^\circ$     C)  $160^\circ$     D)  $150^\circ$
9. 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
10. 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**

11. Soddashtiring:  $\frac{a^2-ac-bc-b^2}{a^2+ac+bc-b^2}$     A)  $\frac{a+b}{a-b}$     B)  $\frac{a-b}{a+b}$     C)  $\frac{a-b+c}{a+b-c}$     D)  $\frac{a-b-c}{a-b+c}$
12. 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
13.  $\frac{16-x^2}{x+4} - \frac{x^2-9}{3-x} < 10$  tengsizlikning  $(-5; 5)$  oraliqda nechta butun yechimi mavjud?  
A) 7    B) 8    C) 9    D) 10
14. 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 Bcex
15. 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 ballardan baholanadi**

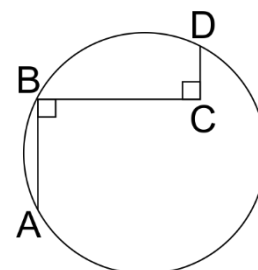
21. Ikkinchi raqami uchinchi raqamidan 1 ta kam bo'lgan uch xonali sonlar sonini toping.

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

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

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

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



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.



**O'quvchilar tayyorgarlik ko'rishlari uchun o'tgan yilgi savollar  
keltirilmoqda.**

Maktabgacha va maktab ta'limi vazirligi Fan olimpiadalari bo'yicha iqtidorli o'quvchilar bilan ishlash departamenti tomonidan tuman bosqichi uchun nazorat materiallari shakllantirildi.

**Telegram kanalimiga obuna bo'ling! **

<https://t.me/ustoz>

