1 **(3,1 ball)** Hisoblang: $\dfrac{(20+25)^2}{(2+0+2+5)^2} - \dfrac{(2+0+2+4)^2}{(20-24)^2}$

A) 29 B)11 C)21 D)19

2 **(3,1 ball)** $a = 2023$, $b = 2024$, $c = 2025$ bo‘lib, $S = \dfrac{a^2+2ab+b^2-c^2}{a+b+c}$ algebraik ifoda berilgan bo‘lsa, S ning qiymatini hisoblang.

A) 2022 B)2023^2 C)6009 D)2024

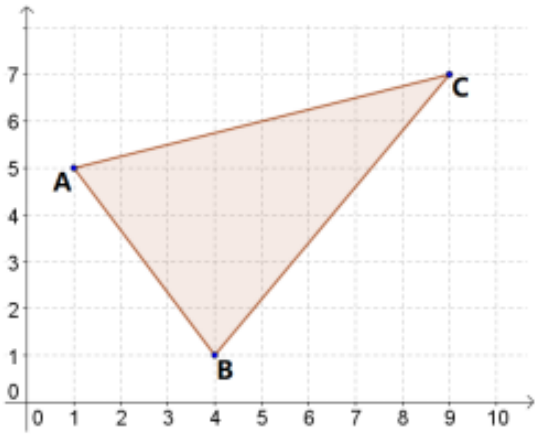
3 **(3,1 ball)** $T \cdot A \cdot S \cdot I \cdot M \cdot O = 840$ tenglikda turli harflar turli raqamni ifodalaydi. Shunga ko‘ra $T + A + S + I + M + O$ ifodaning qiymatini toping.

A)21 B)22 C)23 D)27

4 **(3,1 ball)** Agar $x = 1\underbrace{999...9}_{2023\ ta}8$ bo‘lsa, $\dfrac{x}{2} + 1$ ning qiymatini toping.

A)$1\underbrace{000\ldots0}_{2024\ ta}$ B) $1\underbrace{000\ldots0}_{2023\ ta}$ C) $1\underbrace{000\ldots0}_{2025\ ta}$ D) $\underbrace{999\ldots9}_{2024\ ta}$

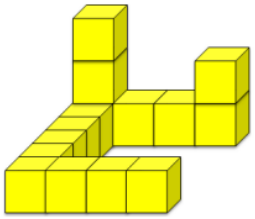
5 **(3,1 ball)** Uchlari A,B,C nuqtalarda bo‘lgan uchburchak yuzini toping.



A) 32 B)26 C)19 D)11

TASHKENT INTERNATIONAL MATHEMATICS OLYMPIAD

6 **(4,2 ball)** Quyidagi rasmda bir nechta kichik kubchalardan tuzilgan shakl berilgan. Ushbu shaklni kubga to‘ldirish uchun eng kamida yana nechta kichik kubchalar kerak bo‘ladi?

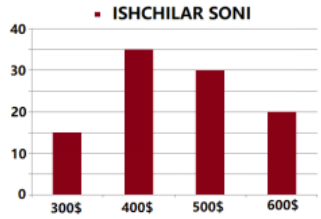


A) 203 B)202 C)201 D)200

7 **(4,2 ball)** Erkinda 7 cm va 8 cm uzunlikdagi tayoqchalar bor. Agar barcha tayoqchalarning uzunliklari yig‘indisi 67 cm bo‘lsa, unda jami nechta tayoqcha bor?

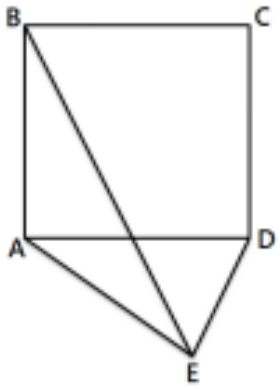
A) aniqlab bo‘lmaydi B)8 C)9 D)10

8 **(4,2 ball)** Quyidagi diagrammada xususiy ferma ishchilarining oylik maoshi taqsimoti berilgan. Ushbu ferma ishchilariga o‘rtacha necha $ dan pul to‘laydi?



A) 440 B)435 C)455 D)510

9 **(4,2 ball)** ABCD kvadrat tashqarisida E nuqta olingan. Bunda AE=AD. Agar $\angle ADE = 70°$ bo‘lsa, $\angle EBC$ =?



A) 35° B)55° C)65° D)70°

10 **(4,2 ball)** $a+b+c=0$ bo‘lsa, $a\cdot\left(1+\frac{1}{b}+\frac{1}{c}\right)+b\cdot\left(1+\frac{1}{a}+\frac{1}{c}\right)+c\cdot\left(1+\frac{1}{a}+\frac{1}{b}\right)$ ifodaning qiymatini toping.

A) 3 B)-3 C)9 D)-9

11 **(5,3 ball)** a, b haqiqiy sonlar uchun $a+b=ab=2024$ tenglik o‘rinli bo‘lsa, $(a^2-2024a)\cdot\left(b+\dfrac{2024}{b}\right)$ ifodaning qiymatini toping.

A) $-\dfrac{1}{2024}$ B) $\dfrac{1}{2024}$ C) 2024^2 D) -2024^2

12 **(5,3 ball)** Basseyn ikkita quvur orqali to‘ldiriladi. Birinchi quvur basseynni 10 soatda 20° li suv bilan to‘ldiradi. Ikkinchi quvur basseynni 15 soatda 40° li suv bilan to‘ldiradi. Ikkita quvur bir vaqtda ochib qo‘yilib basseyn to‘ldirildi. Basseyndagi suv haroratini toping.

A) 26° B)28° D)32° D)36°

13 **(5,3 ball)** Firdavsning 5 ta sandiqchasi mavjud bo‘lib, u sandiqchalarida o‘zining tangalarini saqlaydi. Har bir sandiqchada faqat oltin yoki faqat kumush tanga bor. Sandiqchalardagi tangalar soni mos ravishda 110, 105, 120, 115 va 130 ga teng. Agar sandiqchalardan biri olib tashlansa, qolgan sandiqlardagi oltin tangalar soni kumush tangalar sonidan 3 barobar ko‘p bo‘ladi. Olib tashlangan sandiqda nechta tanga bor?

A)110 B)105 C)115 D)120

14 **(5,3 ball)** Quyidagi tenglamaning barcha butun yechimlari yig‘indisini toping. $xy^2-2=3\left(x+y^2\right)$

A) 20 B)12 C)22 D)28

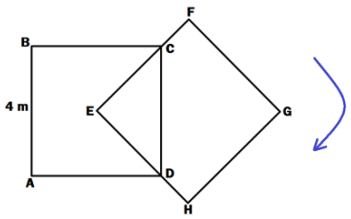
15 **(5,3 ball)** Doskada yozilgan ketma-ket 11 ta sonning o‘rta arifmetigi 10 ga teng. Ularning dastlabki oltitasining o’rta arifmetigi 12 ga, oxirgi oltitasining o’rta arifmetigi esa 11 ga teng. O’rtadagi sonni toping.

A) 18 B)17 C)22 D)28

TASIMO TASHKENT INTERNATIONAL MATHEMATICS OLYMPIAD

16 **(7,4 ball)** Aylanada 10 ta nuqta olingan. Uchlari bu nuqtalarda bo‘lgan vatarlar eng ko‘pi bilan nechta nuqtada kesishadi (aylanada yotmagan nuqtalar qaralsin).
A)105 B)210 C)240 D)320

17 **(7,4 ball)** Tomonlari uzunligi teng bo‘lgan ikki ABCD va EFGH kvadratlar quyidagi rasmdagidek joylashgan. Bunda E nuqta ABCD kvadratning markazi. EFGH kvadrat E nuqta atrofida soat strelkasi yo‘nalishida 18° ga burildi. Natijada EH va AD kesmalar X nuqtada, EF va CD nuqtalar Y nuqtada kesishdi. Hosil bo‘lgan EXDY to‘rtburchakning yuzini toping(m^2).



A)16 B)$8\sin 18^\circ$ C)$6\,\mathrm{tg}\,18^\circ$ D)4

18 **(7,4 ball)** Ikkita javonda jami x ta kitob bor edi. Birinchi javondan b ta kitob olinib, ikkinchi javonga solindi. Natijada birinchi javondagi kitoblar soni ikkinchi javondagi kitoblar sonidan a marta kam bo‘lib qoldi. Dastlab birinchi javonda nechta kitob bor edi?
A) $\frac{ax+ab+b}{a+1}$ B) $\frac{ax-ab-b}{a+1}$ C) $\frac{x-ab-b}{a+1}$ D) $\frac{x+ab+b}{a+1}$

19 **(7,4 ball)** $abc+ab+ac+bc+a+b+c=189$ tenglikni qanoatlantiruvchi $a,b,c-$ natural sonlarning yig‘indisini toping.
A)20 B)21 C)22 D)23

20 **(7,4 ball)** $2x^2+y^2+2xy-12x-10y+39$ ifodaning eng kichik qiymatini toping.
A) aniqlab bo‘lmaydi B)23 C)13 D)26

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