GEOMETRIYA

mavzulashtirilgan testlar to'plami

IDC

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Geometriya

mavzulashtirilgan testlar to’plami

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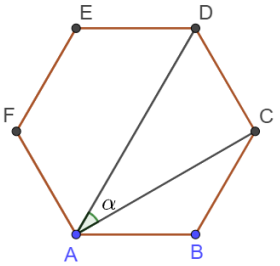
Mundarija

17. Ko'pburchaklar

1 Bitta tashqi burchagi $18°$ ga teng bo'lgan muntazam ko'pburchakning diagonallari sonini toping.
A)135 B)170 C)270 D)340

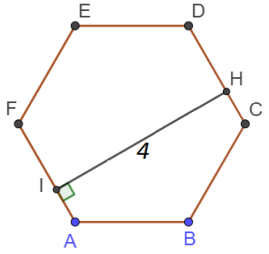
2 ABCDEF-muntazam oltiburchak. $\angle DAC$ =?



A)$20°$ B)$30°$ C)$40°$ D)$45°$

3 Muntazam oltiburchakning kichik diagonali $\sqrt{6}$ ga teng bo'lsa, uning katta diagonalini toping.
A)3 B)$2\sqrt{2}$ C) $2\sqrt{3}$ D)4

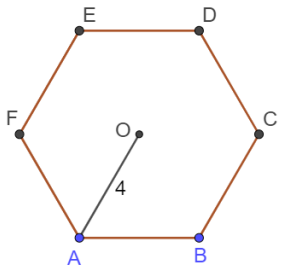
4 ABCDEF-muntazam oltiburchak. $IH \perp AF$; IH=4 bo'lsa, oltiburchak perimetrini toping.



A)$8\sqrt{2}$ B)16 C)24 D)$8\sqrt{3}$

5 Ko'pburchakning diagonallari soni uning tomonlari sonidan 6 marta ko'p. Ko'pburchakning tomonlari sonini toping.
A)10 ta B)12 ta C)14 ta D)15 ta

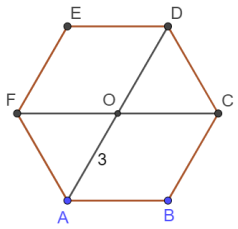
6 ABCDEF-muntazam oltiburchak. O-diagonallar kesishgan nuqta. OA=4 bo'lsa, oltiburchak perimetrini toping.



A)48 B)$24\sqrt{3}$ C)24 D)36

7 Agar $ABCDEF$ muntazam oltiburchakda ACD uchburchak yuzi 24 ga teng bo'lsa, oltiburchak yuzini toping,
A)60 B) 72 C)84 D)96

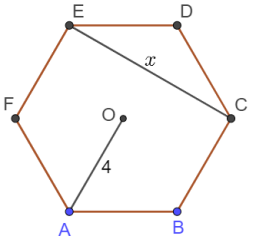
8 ABCDEF-muntazam oltiburchak. OA=3 bo'lsa, oltiburchak yuzini toping.



A) $\frac{27\sqrt{3}}{4}$ B)$9\sqrt{3}$ C)$27\sqrt{3}$ D) $\frac{27\sqrt{3}}{2}$

9 Ichki burchaklari yig'indisi 1080° ga teng bo'lgan ko'pburchakning nechta diagonali mavjud?
A)9 ta B)14 ta C)20 ta D)27 ta

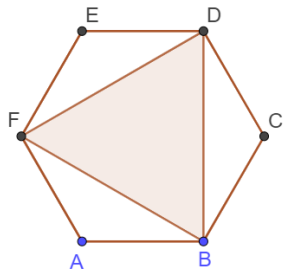
10 ABCD muntazam oltiburchak, O-diagonallar kesishgan nuqta. OA=4 bo'lsa, EC=?



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

11 Agar ko'pburchakning diagonallari soni 20 ta bo'lsa, uning tomonlari soni nechta?
A)5 ta B)6 ta C)8 ta D)10 ta

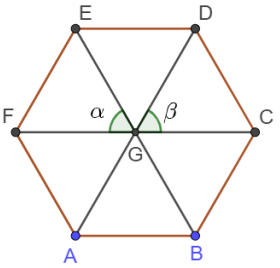
12 ABCDEF muntazam ko'pburchak yuzi 36 ga teng bo'lsa, S_{BDF} =?



A)12 B)18 C)21 D)24

13 Tomoni 12 ga teng bo'lgan ABCDEF muntazam oltiburchak berilgan bo'lsin. Uning AD va BF diagonallari H nuqtada kesishadi. U holda BH kesma uzunligi nechaga teng?
A)6 B)$6\sqrt{2}$ C)$6\sqrt{3}$ D)9

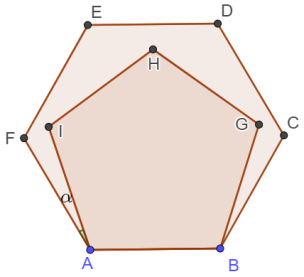
14 ABCDEF-muntazam oltiburchak. $\alpha + \beta$ ning qiymatini toping.



A)60° B)90° C)120° D)135°

15 Muntazam sakkizburchaning tashqi burchagi necha gradus?
A)20° B)30° C)45° D)60°

16 ABCDEF-muntazam oltiburchak, ABGHI-muntazam beshburchak. $\angle FAI = ?$



A)$18°$ B)$9°$ C)$12°$ D)$6°$

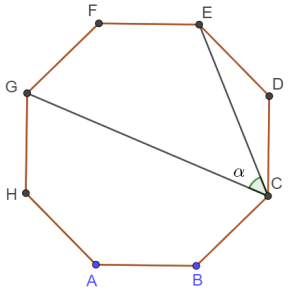
17 Qavariq to'qqizburchakning diagonallari soni nechta?

A)27 ta B)36 ta C)45 ta D)54 ta

18 Tomonining uzunligi $2\sqrt{3}$ ga teng bo'lgan muntazam oltiburchakning yuzini toping.

A)$12\sqrt{3}$ B)$18\sqrt{3}$ C)$24\sqrt{3}$ D)$36\sqrt{3}$

19 ABCDEFGH muntazam sakkizburchak; $\angle GCE = ?$



A)$30°$ B)$37,5°$ C)$45°$ D)$67,5°$

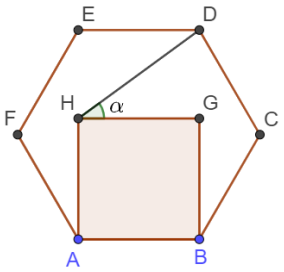
20 Qavariq to'qqizburchakning ichki burchaklari yig'indisini toping.

A)$1080°$ B)$1260°$ C)$1440°$ D)$1620°$

1 Ko'pburchakning barcha ichki burchaklari va bitta tashqi burchagi yig'indisi $\frac{61\pi}{6}$ ga teng bo'lsa, uning nechta tomoni mavjud?

A)8 ta B)10 ta C)12 ta D)15 ta

2 ABCDEF-muntazam oltiburchak, ABGH-kvadrat; $\operatorname{tg}\alpha$ ning qiymatini toping.



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

3 Muntazam ko'pburchakning ichki burchagi 160° dan katta, ammo 162° dan kichik bo'lsa, uning nechta tomoni mavjud?

A)17 ta B)18 ta C)19 ta D)20 ta

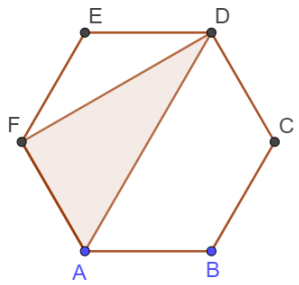
4 ABCDEF oltiburchakning barcha burchaklari teng. Agar $AB=3; AF=4; FE=5$ bo'lsa, $|BC-DE|$ ni hisoblang.

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

5 Ko'pburchakning barcha tashqi burchaklari biri-biridan farqli va butun sondagi graduslar bilan ifodalansa, uning tomonlari soni eng ko'pi bilan nechta bo'lishi mumkin?

A)24 ta B)25 ta C)26 ta D)27 ta

6 ABCDEF-muntazam oltiburchak yuzi 24 ga teng bo'lsa, S_{AFD} =?

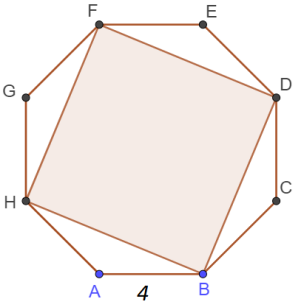


A)4 B)6 C)8 D)12

7 Muntazam ko'pburchakning diagonallari soni tomonlari sonidan 150 taga ko'p. Bu ko'pburchakning bitta tashqi burchagi necha gradus?

A)36° B)30° C)24° D)18°

8 ABCDEFGH-muntazam sakkizburchak. AB=4 bo'lsa, S_{BDFH} =?



A)$32+16\sqrt{2}$ B)$16+8\sqrt{2}$ C)$32-8\sqrt{2}$ D)$32-16\sqrt{2}$

9 Muntazam 18 burchakning bir uchdan chiqqan eng kichik ikkita diagonali orasidagi burchakni toping

A)140° B)120° C)150° D)130°

10 Muntazam $A_1A_2\ldots A_{19}A_{20}$ yigirmaburchakning A_1A_7 va A_1A_{14} diagonallari orasidagi burchakni toping.

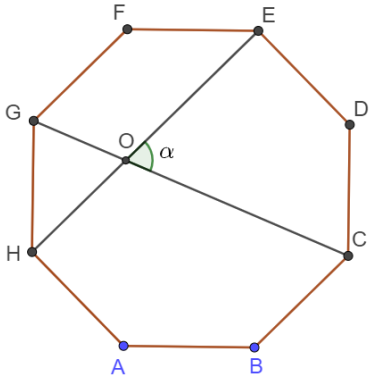
A)63° B)56° C)64° D)72°

11 ABCDE beshburchakda $AE = AB; BC = CD$ va $\angle A = \angle C = 90^\circ$ bo'lsin. Agar $AC = 4$ bo'lsa bu beshburchak yuzini toping.
A)6 B)8 C)16 D)12

12 Muntazam oltiburchak ichida olingan qandaydir nuqtadan uning tomonlarigacha bo'lgan masofalar yig'indisi 18 ga teng. Bu oltiburchak perimetrini toping. ‘
A)$6\sqrt{3}$ B)12 C)$12\sqrt{3}$ D)18

13 ABCDEF muntazam oltiburchakning BC tomonida P nuqta, DE tomonida Q nuqta olingan. bunda CP=8; BP=4 va DQ=6. PCDQ to'rtburchak yuzini toping.
A)$54\sqrt{3}$ B)$45\sqrt{3}$ C)$50\sqrt{3}$ D)$90\sqrt{3}$

14 ABCDEFGH-muntazam sakkizburchak. α =?



A)60° B)45° C)67, 5° D)72, 5°

15 ABCDEF muntazam oltiburchakning B uchidan o'tkazilgan to'g'ri chiziq DE tomonni L nuqtada, CD ning davomini K nuqtada kesadi. Agar CD=12 va DK=4 bo'lsa, LE:LD ni toping.
A)12 B)6 C)5 D)3

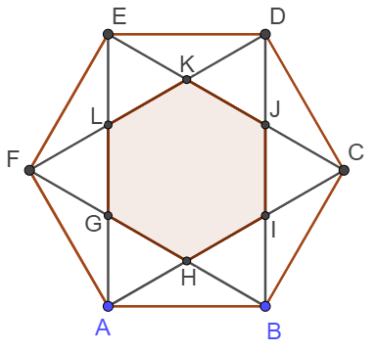
16 Mundazam $A_1A_2A_3..A_n$ ko'pburchakda A_1A_4 va A_4A_7 diagonallar orasidagi burchak 90° bo'lsa, n ning qiymatini toping.

A)9 B)8 C)12 D)10

17 Muntazam oltiburchakning tomonlari o'rtalari tutashtirildi. Hosil bo'lgan oltiburchakning ham tomonlari o'rtalari tutashtirildi va hokazo. Agar dastlabki oltiburchakning tomoni 6 ga teng bo'lsa, hosil bo'lgan barcha oltiburchaklarning perimetrlari yig'indisini toping.

A)$72(1+\sqrt{3})$ B)$72(2+\sqrt{3})$ C)$36(2+\sqrt{3})$ D)$72(2-\sqrt{3})$

18 ABCDEF muntazam oltiburchaknning yuzi 54 ga teng. GHIJKL oltiburchak yuzini toping.



A)6 B)9 C)18 D)27

19 Muntazam sakkizburchakning katta diagonali 12 ga teng. Sakkizburchak yuzini toping.

A)72 B)$72\sqrt{2}$ C)144 D)$36\sqrt{2}$

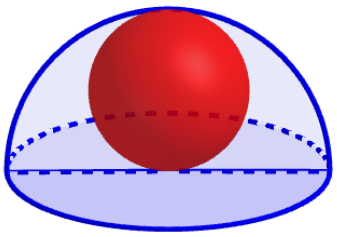
20 $A_1, A_2, ..., A_n$ muntazam n burchakning A_1A_n va A_1A_8 diagonallari orasidagi burchagi 12° bo'lsa, n ni toping.

A)24 B)30 C)36 D)60

38. Shar

1 $(x+2)^2+(y-2)^2+(z+3)^2=25$ tenglama bilan berilgan sfera markazining koordinatalarini toping.
A)$(1;2;-3)$ B)$(-2;2;-3)$ C)$(1;2;3)$ D)$(-1;-2;-3)$

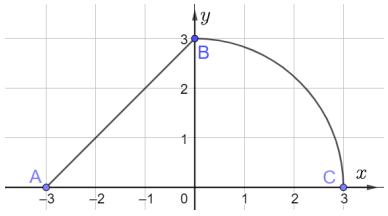
2 Yarim shar shaklidagi metall bo'lagidan eng katta hajmli boshqa bir metall shar bo'lagi ajratib olindi. Agar ajratib olingan bo'lakning hajmi $\frac{256\pi}{3}$ ga teng bo'lsa, qolgan bo'lakning hajmini toping.



A)128π B)384π C)256π D)300π

3 $x^2+y^2+z^2-2x+4y-2z+2=0$ tenglama bilan berilgan sfera radiusini toping.
A)$\sqrt{6}$ B)2 C)1 D)4

4 Quyidagi shaklni Ox o'qi atrofida 360° ga aylantirishdan hosil bo'lgan jism hajmini toping.



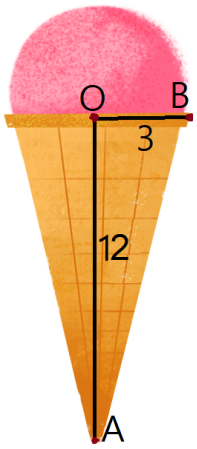
A)30π B)21π C)18π D)27π

5 Radiusi 5 ga teng bo'lgan sfera sirtining yuzini toping.
A)50π B)200π C)100π D)120π

6 Radiusi 3 ga teng bo'lgan shar hajmini toping.
A)18π B)9π C)27π D)36π

7 Yarim shar hajmi 18π ga teng. Uning to'la sirtini toping.
A)36π B)18π C)30π D)27π

8 Muzqaymoq ikki qismdan tashkil topadi: konus va yarim shar. AO=12; OB=3. Muzqaymoq hajmini toping.



A)96π B)54π C)27π D)36π

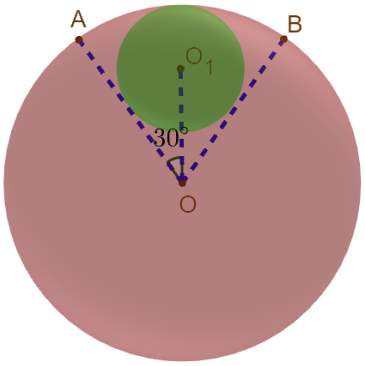
9 Shar radiusi 10% ga kamaytirilsa, uning hajmi yuzi necha % ga kamayadi?
A)$13,31\%$ B)30% C)$29,2\%$ D)$27,1\%$

10 Sfera sirtining yuzini bo'yash uchun 50 gr bo'yoq ishlatildi. Agar sfera radiusi 2 marta orttirilsa, uning sirtini bo'yash uchun qancha bo'yoq ishlatiladi?
A)$100gr$ B)$200gr$ C)$150gr$ D)$400gr$

11 Ikkita shar sirti yuzalarining nisbati 4 ga teng. Bu sharlar hajmlari nisbatini toping.
A)4 B)8 C)2 D)16

12 Radiusi $2a$ ga teng bo'lgan shar tekislik bilan kesilgan. Shar markazidan kesimgacha masofa a ga teng bo'lsa, kesimning yuzini toping.
A)$a^2\pi$ B)$2a^2\pi$ C)$3a^2\pi$ D)$5a^2\pi$

13 Shardagi sektorga shar ichki chizilgan. $\angle AOO_1 = 30°$ bo'lsa, katta shar hajmining kichik shar hajmiga nisbatini toping.



A)27 B)8 C)64 D)9

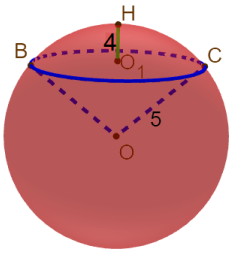
14 Radiusi 15 ga teng bo'lgan shar tekislik bilan kesilgan. Agar kesim yuzi 144π ga teng bo'lsa, shar markazidan kesimgacha bo'lgan masofani toping.
A)9 B)3 C)12 D)14

15 Shar sirtida olingan A,B,C nuqtalar orasidagi masofalar mos ravishda 40,40,48 ga teng. Agar shar radiusi 65 ga teng bo'lsa, shar markazidan ABC uchburchak tekisligigacha masofani toping.
A)50 B)60 C)40 D)45

16 Radiuslari 13 va 15 ga teng kesishuvchi sharlar berilgan. Bu sharlar kesishish chizig'ining uzunligi 24π ga teng. Shar markazlari orasidagi masofani toping.

A)14 B)13 C)12 D)15

17 Radiusi 5 ga teng bo'lgan sharda balandligi 4 ga teng bo'lgan sektor olingan. Sektor hajmini toping.

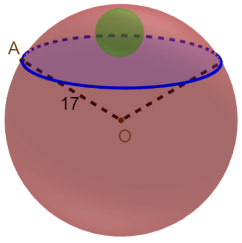


A) $\frac{176\pi}{3}$ B) $\frac{100\pi}{3}$ C)60π D) $\frac{200\pi}{3}$

18 Shar hajmi $4,5\pi$ ga teng bo'lsa, uning sirti yuzini toping.

A)6π B)12π C) $\frac{9}{4}\pi$ D)9π

19 Radiusi 17 ga teng bo'lgan shar tekislik bilan kesildi. Hosil bo'lgan kesim yuzi 225π ga teng. Hosil bo'lgan kichik segmentga ichki chizilgan shar radiusini toping.



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

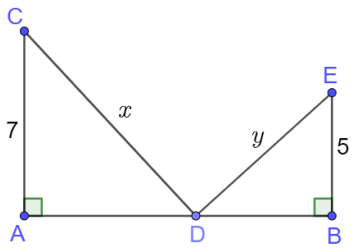
20 Shar sirti yuzi $4\sqrt[3]{9R^2}\pi$ ga teng bo'lsa, uning hajmini toping.

A)$4\pi R$ B)$2\pi R$ C) $\frac{4}{3}\pi R$ D)πR

1 Yasovchisi $6\sqrt{3}$ ga teng bo'lgan konus hajmi eng katta bo'lishi uchun, uning balandligi qanday bo'lishi kerak?
A)3 B)$3\sqrt{3}$ C)6 D)$4\sqrt{3}$

2 SABCD muntazam to'rtburchakli piramidaning S uchidan SO balandlik o'tkazilgan. Bunda SO+AC=18. Piramida asosining yuzi qanday bo'lganda uning hajmi eng katta bo'ladi?
A)36 B)48 C)72 D)96

3 AB=9; AC=7 va EB=5 bo'lsa, CD+ED ning eng kichik qiymatini toping.



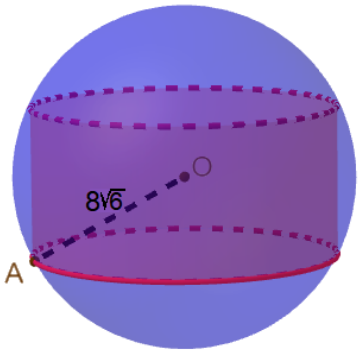
A)10 B)13 C)15 D)18

4 Radiusi $3\sqrt{3}$ ga teng bo'lgan sharga ichki chizilgan muntazam to'rtburchakli piramida hajmining eng katta qiymatini toping.
A)$64\sqrt{3}$ B)$16\sqrt{3}$ C)$48\sqrt{3}$ D)$128\sqrt{3}$

5 Konus asosining radiusi $3\sqrt{3}$ ga, balandligi 5 ga teng. Konusga ichki chizilgan eng katta hajmli silindr hajmini toping.
A)16π B)20π C)$16\sqrt{3}\pi$ D)25π

6 Radiusi $6\sqrt{2}$ ga teng bo'lgan sharga ichki chizilgan eng katta hajmli konus asosining radiusini toping.
A)6 B)8 C)$6\sqrt{3}$ D)9

7 Radiusi $8\sqrt{6}$ ga teng bo'lgan sharga ichki chizilgam eng katta hajmli silindr asosining radiusini toping.



A)$8\sqrt{3}$ B)$4\sqrt{6}$ C)8 D)12

8 To'g'ri burchakli parallelepiped asosi kvadratdan iborat. Agar parallelepiped yon yog'ining perimetri p ga teng bo'lsa, parallelepiped hajmining eng katta qiymatini toping.
A)$\frac{p^3}{27}$ B)$\frac{p^3}{54}$ C)$\frac{p^3}{64}$ D)$\frac{p^3}{81}$

9 Silindr hajmi 128π ga teng. Silindr to'la sirtining eng kichik qiymatini toping.
A)48π B)96π C)32π D)60π

10 Apofemasi $3\sqrt{3}$ ga teng bo'lgan muntazam to'rtburchakli piramida hajmining eng katta qiymatini toping.
A)48 B)72 C)36 D)108

11 Muntazam uchburchakli piramidaga ichki chizilgan shar hajmi $6\sqrt{3}\pi$ ga teng. Piramida hajmining eng kichik qiymatini toping.

A)54 B)216 C)108 D)36

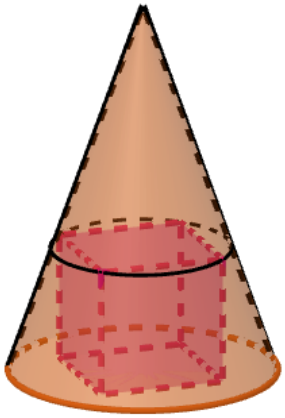
12 Tetraedrning yon yoqlariga tushirilgan balandliklari 8,16 va 24 ga teng. Uning asosiga tushirilgan balandligi h bo'lsa, h ning eng kichik butun qiymatini toping.

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

13 Konus o'q kesimining perimetri 60 ga teng. Konus asosining radiusi qanday bo'lganda, uning hajmi eng katta bo'ladi?

A)10 B)12 C)15 D)20

14 Qirrasining uzunligi 6 ga teng bo'lgan kubga konus tashqi chizildi. Konus hajmining eng kichik qiymatini toping.



A)216π B)288π C)243π D)324π

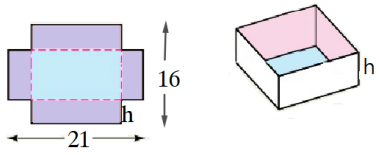
15 To'g'ri burchakli parallelepiped shaklidagi akvariumning eni, bo'yi va balandligi mos ravishda x cm, $160-2x$ cm va 1 m ga teng. Shu akvariumga eng ko'pi bilan necha litr suv ketadi?

A)32 B)320 C)3200 D)480

16 SABCD to'rtburchakli muntazam piramidada balandlik SO=3, $\angle SAO = 45°$. SABCD piramidaning ABCD asosiga parallel tekislik bilan kesilib uchi O nuqtada bo'lgan $OA_1B_1C_1D_1$ piramida hosil qilindi. Hosil qilingan piramidaning eng katta hajmini toping.

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

17 Tomonlari 21 va 16 ga teng bo'lgan to'g'ri to'rtburchak shaklidagi tunikaning to'rtta uchidan tomoni h ga teng bo'lgan kvadrat qirqib olindi va quti shakliga keltirildi. Qutining hajmi eng katta bo'ladigan h ni toping.

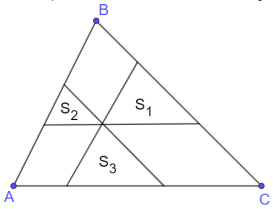


A)3 B)4 C)5 D)6

18 Koordinata tekisligida $A(-3;-1)$ va $D(2;-1)$ nuqtalar berilgan. AD kesma asoslaridan biri bo'luvchi, boshqa asosining uchlari $y = 1 - x^2$ $(x \in (-1;1)$ parabolada yotuvchi eng katta yuzali trapetsiya tanlangan. Shu trapetsiya yuzasini toping.

A)$\frac{289}{54}$ B)$\frac{289}{108}$ C)$\frac{144}{49}$ D)$\frac{169}{54}$

19 ABC uchburchak ichidagi nuqtadan tomonlariga parallel to'g'ri chiziqlar o'tkazildi. $S_3 = 81$ va $S_1 + S_2 = 50$ bo'lsa, ABC uchburchak yuzining eng kichik qiymatini toping.



A)361 B)289 C)324 D)400

20 ABC uchburchakda AB=5,BC=7 va CD=8. CD tomonida M nuqta olingan. ABM va BCM uchburchakka tashqi chizilgan aylana radiuslari yig'indisining eng kichik qiymatini toping.

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

Javoblar

Burchaklar va masofalar																				
Test raqami	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1-test	B	C	A	C	B	B	B	D	C	C	C	A	D	C	B	B	B	B	C	C
2-test	B	D	C	D	C	B	C	C	B	B	B	C	C	B	B	C	D	A	C	B
Parallel to'g'ri chiziqlarda burchaklar																				
Test raqami	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1-test	B	B	C	B	B	C	C	C	C	D	C	B	B	C	A	C	B	C	D	A
2-test	A	A	A	B	D	A	A	C	B	B	C	A	C	D	B	B	A	B	A	A
Uchburchakda burchaklar																				
Test raqami	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1-test	C	B	A	A	C	C	D	D	A	C	B	B	C	C	B	A	A	C	C	B
2-test	C	A	B	C	B	B	B	C	B	D	B	B	B	B	B	C	B	B	B	A
3-test	B	B	A	B	C	C	D	D	D	B	B	B	C	C	B	C	C	D	A	A
Uchburchak tengsizligi																				
Test raqami	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1-test	C	A	D	B	B	B	C	B	B	D	D	C	C	C	A	B	B	A	A	C
2-test	D	A	C	B	A	B	B	C	D	A	C	D	B	C	C	C	D	C	C	D
To'g'ri burchakli uchburchak																				
Test raqami	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1-test	C	C	C	C	A	B	C	A	D	D	C	C	B	C	C	D	B	B	B	C
2-test	C	A	C	C	D	C	A	A	A	C	C	B	D	A	D	B	A	B	B	A
3-test	A	D	A	A	A	A	A	C	C	C	B	D	B	B	D	A	C	C	C	C
Sinuslar va kosinuslar teoremasi																				
Test raqami	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1-test	D	B	C	B	B	A	A	B	B	B	B	A	D	C	C	C	D	C	B	B
2-test	B	B	D	B	B	C	B	B	C	B	B	A	A	B	C	D	D	B	B	B
3-test	C	B	B	C	A	D	B	A	C	B	A	C	C	D	C	C	A	A	B	A
Uchburchak yuzi. 1-qsim																				
Test raqami	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1-test	C	C	B	B	D	B	A	B	C	C	D	B	B	C	B	D	B	A	D	B
2-test	C	D	C	C	D	C	D	B	C	C	D	A	B	B	A	D	C	A	D	B
3-test	A	A	C	A	C	A	A	A	B	B	C	B	B	B	C	C	B	D	D	A
4-test	B	C	A	D	D	B	A	B	A	A	A	D	B	D	B	C	B	A	C	B
Uchburchak bissektrisasi va uning xossalari																				
Test raqami	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1-test	A	A	A	C	B	B	C	A	A	D	B	B	B	A	B	C	B	D	B	D
2-test	B	C	B	B	D	C	C	A	B	B	C	C	C	A	B	B	A	A	A	B
Uchburchak medianasi va uning xossalari																				
Test raqami	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1-test	A	C	D	C	C	B	B	B	B	B	C	B	A	C	A	C	C	D	B	C
2-test	B	B	C	A	D	B	B	D	A	A	D	A	A	D	B	C	C	B	C	A
Uchburchaklar o'xshashligi																				
Test raqami	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1-test	B	D	C	B	D	C	C	A	C	C	C	A	D	B	C	C	A	B	B	B
2-test	C	B	B	C	C	A	B	B	B	C	C	A	A	D	C	D	A	B	D	C
3-test	D	B	A	C	B	B	B	D	A	C	C	C	B	C	B	B	A	D	B	D