

O‘zbekiston Respublikasi
Maktabgacha va maktab ta’limi vazirligi huzuridagi
Ixtisoslashtirilgan ta’lim muassasalari agentligi
2022-2023 o‘quv yili III-chorak
Ixtisoslik fanlaridan choraklik summativ
baholash test savollari.
(aniq fanlar yo‘nalishi)
9-sinf
I VARIANT

1-12 algebra, 13-20 geometriya, 21-35 fizika, 36-50 ingliz tili.
 (B-bilish; Q-qo‘llash; M-mulohazaga oid test savollari)

O‘quvchi (F.I.SH).....

1. (B. 2,5 ball) Quyida keltirilgan tasdiqlardan qaysilari to‘g‘ri?

- 1) Arifmetik progressiyaning ayirmasi uchun $d = \frac{a_n - a_1}{n-1}$, ($n \neq 1$) munosabat o‘rinli;
- 2) Arifmetik progressiya dastlabki n ta hadining yig‘indisi uchun $S_n = \frac{2a_1 + (n-1)d}{2} \cdot n$ formula o‘rinli;
- 3) Cheksiz kamayuvchi geometrik progressiyaning S yig‘indisi $S = \frac{b_1}{q-1}$ ga teng;
- 4) Geometrik progressiya dastlabki n ta hadining yig‘indisi $S_n = \frac{b_1(1-q^n)}{q-1}$, ($q \neq 1$) formula bilan hisoblanadi;

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

2. (B. 2,5 ball) Quyida keltirilgan keltirish formulalaridan qaysilari to‘g‘ri?

- 1) $tg(\frac{3\pi}{2} - \alpha) = -ctg\alpha$; 2) $ctg(\frac{\pi}{2} + \alpha) = -tg\alpha$;
- 3) $cos(\frac{3\pi}{2} + \alpha) = sin\alpha$; 4) $sin(2\pi - \alpha) = -sin\alpha$;

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

3. (B. 2,5 ball) Quyida keltirilgan trigonometrik formulalaridan qaysilari to‘g‘ri?

- 1) $cos(\alpha + \beta) = cos\alpha \cdot cos\beta + sin\alpha \cdot sin\beta$; 2) $tg(\alpha - \beta) = \frac{tg\alpha + tg\beta}{1 - tg\alpha \cdot tg\beta}$;
- 3) $ctg(\alpha + \beta) = \frac{ctg\alpha \cdot ctg\beta - 1}{ctg\alpha + ctg\beta}$; 4) $sin2\alpha = 2sin\alpha cos\alpha$;

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

4. (Q. 3,5 ball) Agar arifmetik progressiyada $a_2 + a_4 = 7$ va $a_6 + a_8 = 23$ bo‘lsa, $a_3 + a_7$ ning qiymatini toping. A) 20 B) 10 C) 15 D) 18

5. (Q. 3,5 ball) 1 va 64 sonlari orasiga 5 ta shunday sonni joylashtiringki, ular bu sonlar bilan birgalikda geometrik progressiya tashkil etsin. Shu progressiyaning beshinchi hadini toping.

A) 24 B) 32 C) 28 D) 16

6. (Q. 3,5 ball) Ifodani soddalashtiring: $\frac{1}{tg^2\alpha} - \frac{2cos2\alpha}{1+sin(2\alpha+1,5\pi)}$ A) -1 B) 0 C) 1 D) $cos\alpha$

7. (Q. 3,5 ball) Hisoblang: $\sqrt[3]{4\sqrt[3]{4\sqrt[3]{4}\dots}}$ A)2 B) $\sqrt[3]{4}$ C) $4\sqrt[3]{4}$ D) $\sqrt[3]{2}$

8. (Q. 3,5 ball) Hisoblang: $\frac{\sin 136^\circ \cdot \cos 46^\circ - \sin 46^\circ \cdot \cos 224^\circ}{\sin 110^\circ \cdot \cos 40^\circ - \sin 20^\circ \cdot \cos 50^\circ}$ A)0,5 B)2 C)1 D)-1

9. (Q. 3,5 ball) Arifmetik progressiyaning o'n uchinchi hadini uchinchi hadiga bo'lganda bo'linmada 3 hosil bo'ladi, o'n sakkizinchi hadini yettinchi hadiga bo'lganda esa bo'linmada 2 va qoldiqda 8 hosil bo'ladi. Progressiyaning dastlabki o'n beshta hadining yig'indisini toping.

A)640 B)180 C)480 D)600

10. (Q. 3,5 ball) Hadlari o'sib boruvchi geometrik progressiyaning dastlabki uchta hadining yig'indisi 91 ga teng. Agar shu progressiyaning birinchi hadiga 25 ni, ikkinchi hadiga 27 ni va uchinchi hadiga 1 qo'shilsa, u holda arifmetik progressiya tashkil qiladadi. Berilgan geometrik progressiyaning to'rtinchi hadini toping.

A)169 B)182 C)189 D)144

11. (Q. 3,5 ball) Kamondan o'q otish musobaqasida ishtirok etayotgan mergan 25 tadan otishda har bir xato qilgani uchun jarima ochkolar oldi: birinchi xato qilgani uchun bitta jarima ochko, undan keyingi har bir xato qilgani uchun oldingisiga qaraganda $\frac{1}{2}$ ochko ortiq beriladi. 7 ta jarima ochko olgan mergan necha marta xato qilgan?

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

12. (M. 4,5 ball) Uchta eritmada tuzning tarkibi (massa bo'yicha) geometrik progressiya tashkil qiladi. Agar I, II va III eritmalarini 2:3:4 nisbatda (massalar bo'yicha) aralashtirilsa, u holda tarkibida 32 % tuz bo'lgan eritma hosil bo'ladi. Agar I, II va III eritmalarini 3:2:1 nisbatda (massalar bo'yicha) aralashtirilsa, tarkibida 22 % tuz bo'lgan eritma hosil bo'ladi. II eritma tarkibida necha protsent tuz bor?

A)24 B)36 C)48 D)72

13. (B. 4,5 ball) Quyida keltirilgan mulohazalardan qaysilari to'g'ri?

- 1) Uchburchak istalgan tomonining kvadrati qolgan ikki tomoni kvadratlari yig'indisidan shu ikki tomon bilan ular orasidagi burchak kosinusi ko'paytmasining ayirmasiga teng.
- 2) Uchburchak yuzi uning ikki tomoni bilan shu ikki tomon orasidagi burchak sinusi ko'paytmasining yarmiga teng.
- 3) Har qanday muntazam ko'pburchakka ichki aylana ham, tashqi aylana ham chizish mumkin.
- 4) To'rtburchak yuzi uning diagonallari bilan diagonallar orasidagi burchak sinusi ko'paytmasining yarmiga teng.

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

14. (B. 4,5 ball) Quyida keltirilgan teoremlardan qaysilari to'g'ri?

- 1) Agar r radiusli aylanaga tashqi chizilgan ko'pburchakning yuzi S , yarim perimetri p bo'lsa, $S = pr$ bo'ladi.
- 2) Agar muntazam uchburchak tomoni a , uchburchakka tashqi chizilgan aylana radiusi R bo'lsa, $R = \frac{a}{3}$ bo'ladi.
- 3) Agar \vec{a} va \vec{b} vektorlar o'zaro perpendikular bo'lsa, u holda $\vec{a} \cdot \vec{b} = 0$ bo'ladi.
- 4) Uchburchak tomonining shu tomon qarshisidagi burchagi sinusiga nisbati uchburchakka tashqi chizilgan aylana diametriga teng, ya'ni $\frac{AB}{\sin C} = \frac{BC}{\sin A} = \frac{AC}{\sin B} = 2R$ bo'ladi.

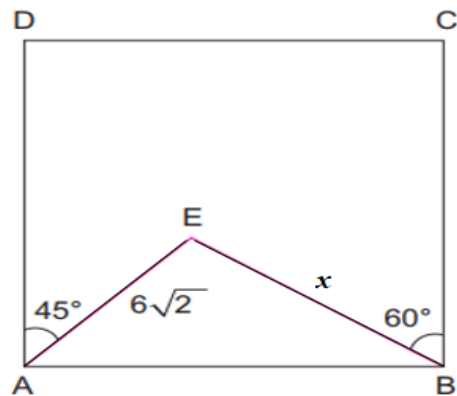
A)1; 2; 3 B) 1; 3; 4 C) 2; 3; 4 D) 1; 2; 3; 4

15. (Q. 5 ball) Agar $\vec{a}(2; x)$, $\vec{b}(-4; 1)$ bo'lib, $\vec{a} + \vec{b}$ va \vec{b} vektorlar o'zaro perpendikulyar bo'lsa, x ning qiymatini toping.

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

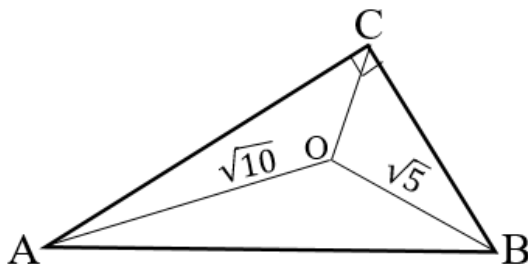
16. (Q. 5 ball) $ABCD$ to'g'ri to'rtburchak ichida biror E nuqta olingan. Agar $\angle CBE = 60^\circ$, $\angle DAE = 45^\circ$ va $AE = 6\sqrt{2}$ cm bo'lsa, BE ning uzunligini toping.

- A) $12\sqrt{2}$ cm B) $9\sqrt{2}$ cm
C) 12 cm D) 15 cm



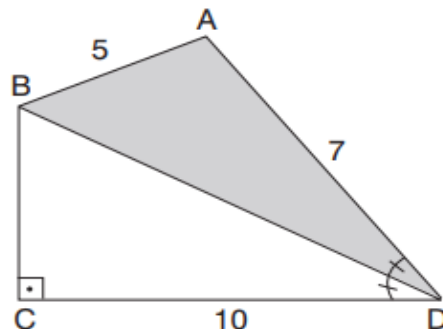
17. (Q. 5 ball) To'g'ri burchakli ABC uchburchak bissektoralari O nuqtada kesishadi ($\angle C = 90^\circ$). Agar $OA = \sqrt{10}$ cm, $OB = \sqrt{5}$ cm bo'lsa, AB gipotenuza uzunligini toping.

- A) 5 cm B) $\sqrt{15}$ cm
C) $2\sqrt{5}$ cm D) 10 cm



18. (Q. 5 ball) $ABCD$ to'rtburchakda $AB = 5$ cm, $AD = 7$ cm, $CD = 10$ cm va $\angle BDC = \angle BDA$ bo'lsa, bo'yalgan sohaning yuzini toping ($S_{ABD} = ?$).

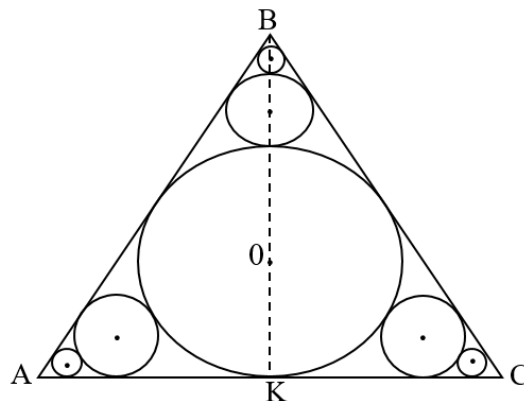
- A) 16 cm^2 B) 14 cm^2
C) 21 cm^2 D) 18 cm^2



19. (Q. 5 ball) Aylanaga ichki chizilgan muntazam oltiburchak tomoni 20 cm ga teng. Shu aylanaga muntazam uchburchak ham ichki chizilgan. Uchburchakning perimetrini toping. A) 60 cm
B) $30\sqrt{3}$ cm C) $60\sqrt{3}$ cm D) 30 cm

20. (M. 6 ball) Tomoni uzunligi a cm bo'lgan muntazam uchburchakka ichki doira chizilgan. Bu uchburchakka doiraga va uchburchakning ikkita tomoniga urinadigan yana uchta doira ichki chizilgan. Hozirgina chizilgan doira va uchburchakning ikkita tomoniga urinadigan yana uchta doira ichki chizilgan va bu jarayon shu yo'sinda davom ettirilgan. Barcha ichki chizilgan doiralar yuzlari yig'indisini toping.

- A) $\frac{11}{96}\pi a^2$ B) $\frac{13}{96}\pi a^2$
C) $\frac{11}{48}\pi a^2$ D) $\frac{13}{48}\pi a^2$



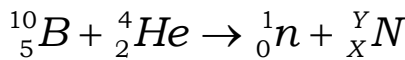
21. (B. 2 ball) Elementning Mendeleyev davriy sistemasidagi tartib raqami ga teng. (nuqtalar o'rnini to'ldiring)

- I. atomdagi elektronlar soniga II. yadrodagi protonlar soniga
III. yadrodagi neytronlar soniga IV. yadrodagi nuklonlar soniga
A) I, II B) III, IV C) I, IV D) I, II, III, IV

22. (B. 2 ball) γ -nurlanish nima?

- A) ionlar oqimi B) elektromagnit to'lqin
C) protonlar oqimi D) elektronlar oqimi

23. (B. 2 ball) Quyidagi yadro reaksiyasi natijasida hosil bo'lgan azotning zaryad soni (X) va massa soni (Y) ni toping:



- A) X=3; Y=6 B) X=3; Y=5 C) X=7; Y=4 D) X=7; Y=13

24. (B. 2 ball) Rasmda qanday qurilma tasvirlangan?

- A) resistor B) kondensator C) potensiometr D) fotorezistor

25. (Q. 2,8 ball) Ikki birlik sanoq sistemasida berilgan sonlar ustida qo'shish amalini bajaring:
 $10011 + 11001 = ?$

- A) 21012 B) 111000 C) 110100 D) 101100

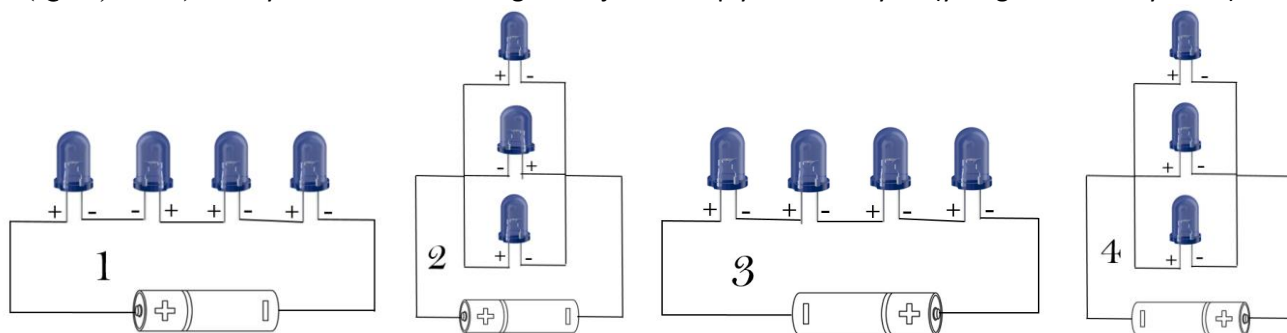
26. (Q. 2,8 ball) Rasmda ko'rsatilgan atomning zaryadi 5 proton zaryadiga teng bo'lsa, atomning yadrosidagi protonlar sonini aniqlang.

- A) 7 B) 12 C) 2 D) aniqlab bo'lmaydi

27. (Q. 2,8 ball) Atom yadrosining bog'lanish energiyasi $9,9 \cdot 10^{-12}$ J bo'lsa,

uning massa defekti qanday (kg)? A) $9 \cdot 10^{-29}$ B) $1,1 \cdot 10^{-28}$ C) $1,2 \cdot 10^{-29}$ D) $1 \cdot 10^{-28}$

28. (Q. 2,8 ball) .Quyida rasmda ko'rsatilgan zanjirlardan qaysi biri ishlaydi? (yorug'lik diodlari yonadi)



- A) faqat 2 B) 1, 2 va 4 C) 1 va 2 D) faqat 1

29. (Q. 2,8 ball) ${}^{238}_{92}U$ elementi 2α , 3β nurlanishdan keyin X elementga aylanmoqda. Bunga asosan, X elementning yadrosida nechta neytron mavjud? A) 138 B) 139 C) 140 D) 141

30. (Q. 2,8 ball) ${}^{66}_{29}Cu$ element yadrosidagi protonlar va neytronlar o'rnini almashtirishdan hosil bo'lgan yangi X elementning yadrosi zaryadini hisoblang.

- A) $46,4 \cdot 10^{-19}$ C B) $105,6 \cdot 10^{-19}$ C C) $59,2 \cdot 10^{-19}$ C D) $46,4 \cdot 10^{-27}$ C

31. (Q. 2,8 ball) AES bitta reaktorining elektr quvvati 440 MW ga teng. AES to'liq quvvat bilan ishlaganda bir kunda qancha elektr energiyasi ishlab chiqaradi ($kW \cdot h$)? (AES jami to'rtta reaktordan iborat) # (Q) (2,8 ball) #

- A) 42240000 B) 10560 C) 42240 D) 10560000

32. (Q. 2,8 ball) . Uran ${}^{238}_{92}U$ necha marta α va β radioaktiv yemirilishdan so'ng astat ${}^{210}_{85}At$ ga aylanadi?

- A) 7 α , 7 β B) 7 α , 14 β C) 14 α , 7 β D) 14 α , 14 β

33. (Q. 2,8 ball) ${}^{27}_{13}Al$ alyumining atomining yadrosi neytronlar bilan bombardimon qilinganda alfa zarracha chiqadi va qandaydir izotopning yadrosi hosil bo'ladi. Hosil bo'lgan izotopning yadrosidagi neytronlar sonini toping.

- A) 14 B) 11 C) 15 D) 13

34. (Q. 2,8 ball) . Quyidagi rasmda keltirilgan shartli sxemalar qaysi qurilmalarga tegishli ekanligini toping.

- A) 1-diod; 2-tok manbai; 3-rezistor; 4-kondensator;
B) 1-fotorezistor; 2-kondensator; 3-rezistor; 4-diod;
C) 1-fotorezistor; 2-tok manbai; 3-kondensator; 4-diod;
D) 1-tranzistor; 2-kondensator; 3-rezistor; 4-diod;

