

**49-Mavzu. Ko‘pburchak va aylana**

1. ABCDEF muntazam oltiburchakda AC, CE, BF,FD diagonallar o‘tkazilgan. AC va BF diagonallar L nuqtada , CE va FD diagonallar K nuqtada kesishadi. Agar oltiburchak tomoni  $2\sqrt{3}$  ga teng bo‘lsa, LK diagonal uzunligini toping.  
A) 4    B) 5    C) 6    D) 9
2. Muntazam o‘nburchakning bir uchidan chiqqan eng katta va eng kichik diagonallari orasidagi burchakni toping.  
A)  $63^\circ$     B)  $54^\circ$     C)  $36^\circ$     D)  $48^\circ$
3. Muntazam yigirmaburchakning bir uchidan chiqqan eng katta va eng kichik diagonallari orasidagi burchakni toping.  
A)  $72^\circ$     B)  $76^\circ$     C)  $80^\circ$     D)  $82^\circ$
4. Muntazam ko‘pburchakning tomoni unga tashqi chizilgan aylananing  $36^\circ$  li yoyni tortib turadi. Muntazam ko‘pburchakning tomonlari sonini toping.  
A) 6    B) 8    C) 10    D) 12
5. Muntazam ko‘pburchakning tomoni unga tashqi chizilgan aylananing  $30^\circ$  li yoyni tortib turadi. Muntazam ko‘pburchakning tomonlari sonini toping.  
A) 6    B) 8    C) 10    D) 12
6. Uzunligi  $12\pi$  cm bo‘lgan aylanaga muntazam oltiburchak va ABC uchburchak ichki chizilgan. ABC uchburchakning o‘tkir burchagi  $60^\circ$  bo‘lib, uning AB tomoni aylananing markazidan o‘tadi. Muntazam oltiburchakning yuzi ABC uchburchakning yuzidan necha  $\text{cm}^2$  ga katta?  
A)  $18\sqrt{3}$     B)  $32\sqrt{3}$     C)  $36\sqrt{3}$     D)  $48\sqrt{3}$
7. Kichik diagonali  $12\sqrt{3}$  bo‘lgan muntazam oltiburchakka tashqi chizilgan aylananing radiusini toping  
A)  $4\sqrt{3}$     B)  $6\sqrt{3}$     C) 12    D) 14
8. Muntazam oltiburchakka tashqi chizilgan aylananing radiusi 12 ga teng bo‘lsa, oltiburchakning kichik diagonalini toping.  
A)  $12\sqrt{2}$     B)  $12\sqrt{3}$     C)  $6\sqrt{5}$     D)  $8\sqrt{5}$
9. Muntazam ko‘pburchakning perimetri 60 ga, unga ichki chizilgan aylananing radiusi 8 ga teng. Shu ko‘pburchakning yuzini toping.  
A) 480    B) 240    C) 120    D) 60

10. Muntazam ko‘pburchakka tashqi chizilgan aylana uzunligining uning tomoniga nisbati  $\pi\sqrt{2}$  ga teng. Shu muntazam ko‘pburchak tomonlar sonini toping.  
A) 4    B) 5    C) 6    D) 8
11. R radiusli aylanaga tashqi chizilgan muntazam oltiburchakning tomonlarini toping.  
A)  $\frac{2\sqrt{2-\sqrt{3}}}{\sqrt{2+\sqrt{3}}}R$     B)  $\frac{2\sqrt{3}}{3}R$     C) 1,5R    D) 1,2R
12. R radiusli aylanaga ichki chizilgan muntazam 12 burchakning tomonini toping.  
A)  $R\sqrt{2-\sqrt{3}}$     B)  $R\sqrt{2-\sqrt{2}}$     C) R    D)  $R\frac{\sqrt{2}}{2}$
13. Muntazam oltiburchakka tashqi chizilgan aylananing radiusi  $8\sqrt{3}$  ga teng. Uning paralel tomonlari orasidagi masofa topilsin .  
A) 12    B) 18    C) 16    D) 24
14. Tomoni 24 ga teng bo‘lgan muntazam uchburchak burchaklari shunday qir qilganki, muntazam oltiburchak hosil qilingan. Hosil bo‘lgan muntazam oltiburchakka ichki chizilgan aylana radiusini toping.  
A)  $2\sqrt{3}$     B)  $4\sqrt{3}$     C)  $6\sqrt{3}$     D)  $8\sqrt{3}$
15. Tomoni 6 ga teng bo‘lgan kvadrat burchaklari shunday qir qilganki, muntazam sakkizburchak hosil qilingan. Hosil bo‘lgan muntazam sakkizburchakka ichki chizilgan aylana radiusini toping.  
A) 1    B) 2    C) 3    D) 4
16. Muntazam sakkizburchakka tashqi chizilgan doira yuzining unga ichki chizilgan doira yuziga nisbatini toping.  
A)  $2-\sqrt{2}$     B)  $4-2\sqrt{2}$     C)  $2+\sqrt{2}$     D)  $3+2\sqrt{2}$
17. Muntazam ko‘pburchakka ichki chizilgan aylana radiusi 9 cm ga, tashqi chizilgan aylana radiusi esa  $6\sqrt{3}$  cm ga teng. Shu ko‘pburchakning tomonlari sonini toping.  
A) 6    B) 9    C) 12    D) 18
18. Aylanaga tashqi chizilgan muntazam oltiburchak yuzining shu aylanaga ichki chizilgan muntazam oltiburchak yuziga nisbatini toping.  
A)  $\frac{4}{3}$     B) 1,5    C)  $\frac{5}{3}$     D) 3

19. Aylanaga ichki chizilgan muntazam oltiburchakning tomoni 12 ga teng. Shu aylanaga kvadrat ham ichki chizilgan. Kvadratga ichki chizilgan doiraning yuzini toping.

A)  $90\pi$    B)  $72\pi$    C)  $36\pi$    D)  $48\pi$

20. Muntazam ko‘pburchakning tomoni  $a$ , unga tashqi chizilgan aylananing radiusi  $R$  bo‘lsa, unga ichki chizilgan aylananing radiusi qanday bo‘ladi?

A)  $\sqrt{R^2 + \frac{a^2}{4}}$    B)  $\sqrt{R^2 - \frac{a^2}{4}}$    C)  $\frac{2aR}{\sqrt{4R^2+a^2}}$    D)  $\frac{2aR}{\sqrt{4R^2-a^2}}$

21. Radiusi  $R$  bo‘lgan aylanaga tashqi chizilgan muntazam  $n$ -burchakning tomoni  $b$  bo‘lsa, shu aylanaga ichki chizilgan muntazam  $n$ -burchakning tomoni qanday bo‘ladi?

A)  $\sqrt{R^2 + \frac{b^2}{4}}$    B)  $\sqrt{R^2 - \frac{b^2}{4}}$    C)  $\frac{2bR}{\sqrt{4R^2+b^2}}$    D)  $\frac{2bR}{\sqrt{4R^2-b^2}}$

22. Doiraga ichki chizilgan muntazam uchburchakning perimetri unga ichki chizilgan kvadratning perimetridan 5 ga kam. Shu doiraga ichki chizilgan muntazam oltiburchakning perimetrini toping.

A)  $12\sqrt{3} + 18\sqrt{2}$    B)  $24\sqrt{2} + 18\sqrt{3}$    C)  $18\sqrt{2} + 24\sqrt{3}$    D)  $24\sqrt{3} + 12\sqrt{2}$

23. Doiraga ichki chizilgan muntazam uchburchakning yuzi unga ichki chizilgan kvadratning yuzidan 18,5 ga kam. Shu doiraga ichki chizilgan muntazam oltiburchakning yuzini toping.

A)  $8\sqrt{3} + 15$    B)  $9\sqrt{3} + 6\sqrt{2}$    C)  $12\sqrt{3} + 13,5$    D)  $24\sqrt{3} + 27$

24. Aylanaga ichki chizilgan qavariq 12 burchakning 6 ta tomoni uzunligi  $\sqrt{2}$ , boshqa 6 ta tomonlari uzunliklari esa  $\sqrt{24}$  ga teng. Shu aylananing radiusini toping.

A)  $\sqrt{24}$    B)  $\sqrt{38}$    C)  $\sqrt{42}$    D) 7

**Kalitlar**

1.	A	16.	B
2.	B	17.	A
3.	A	18.	A
4.	C	19.	B
5.	D	20.	B
6.	C	21.	C
7.	C	22.	B
8.	B	23.	D
9.	B	24.	B
10.	A	25.	
11.	B	26.	
12.	A	27.	
13.	D	28.	
14.	B	29.	
15.	C	30.	