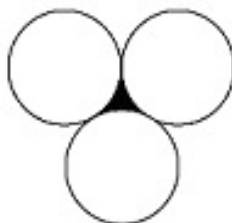


46-Mavzu. Uchburchak va aylana

1. Muntazam uchburchakning bissektrisasi 12 cm bo'lsa, unga ichki chizilgan aylananing radiusi topilsin.
A) 2 cm B) 3 cm C) 4 cm D) 6 cm
2. Muntazam uchburchakning balandligi 15 cm bo'lsa, unga ichki chizilgan aylananing radiusi topilsin.
A) 2 cm B) 3 cm C) 4 cm D) 5 cm
3. Muntazam uchburchakka tashqi chizilgan aylananing radiusi 6 cm ga teng. Uning medianasi uzunligini toping.
A) 6 cm B) 9 cm C) 12 cm D) 18 cm
4. Uchburchak tomonlarining uzunliklari arifmetik progressiyani tashkil etadi. Uzunligi bo'yicha o'rtacha tomonga tushirilgan balandlik 10 ga teng bo'lsa, shu uchburchakka ichki chizilgan doiraning radiusini toping.
A) 5 B) 3,2 C) $3\frac{1}{3}$ D) 3,5
5. Radiusi 6 ga teng bo'lgan aylanaga ichki chizilgan muntazam uchburchak yuzini toping.
A) $18\sqrt{3}$ B) $27\sqrt{3}$ C) 27 D) $108\sqrt{3}$
6. Teng tomonli uchburchakning perimetri $6\sqrt{3}$ ga teng bo'lsa, shu uchburchakka ichki chizilgan aylana radiusini toping.
A) $\frac{2}{\sqrt{3}}$ B) $\sqrt{3}$ C) 1 D) 3
7. Muntazam uchburchakka r radiusli 3 ta teng aylana shunday ichki chizilganki, ular o'zaro hamda ikkitadan tomonlarga urinadi. Muntazam uchburchak tomonini toping.
A) $2r(\sqrt{3} + 1)$ B) $2r(\sqrt{3} + 2)$ C) $2\sqrt{3}r + 1$ D) $2\sqrt{3}r + 2$
8. Agar uchburchakni tomonlari 1, $\sqrt{5}$ va 2 bo'lsa unga tashqi chizilgan aylana radiusini toping.
A) $\sqrt{2,5}$ B) 6,5 C) 3,25 D) $\sqrt{1,25}$

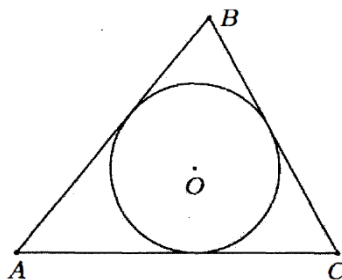
9. Chizmada 3 ta birlik aylana o‘zaro tashqi urinadi. Ular orasida joylashgan bo‘yalgan shakl yuzini toping.



- A) $\frac{\pi}{2} - \sqrt{3}$ B) 1,5 C) $\pi - \sqrt{3}$ D) $\sqrt{3} - \frac{\pi}{2}$
10. Tomonlari $4\sqrt{2}$; 6 va 8 ga teng bo‘lgan uchburchakka tashqi chizilgan aylana markazi uchburchakning qayerida joylashgan bo‘ladi?
A) eng katta tomonida B) eng kichik tomonida
C) ichki sohasida D) tashqi sohasida
11. Katetlari 40 va 30 ga teng bo‘lgan to‘g‘ri burchakli uchburchakka ichki chizilgan aylananing radiusini toping.
A) 10 B) 7 C) 6,5 D) 7,5
12. To‘g‘ri burchakli uchburchakka ichki chizilgan aylana radiusi 4 cm bo‘lib, gipotenuzasi uzunligi 20 cm ga teng. Uchburchakning katetlari yig‘indisini toping.
A) 14 cm B) 22 cm C) 28 cm D) 44 cm
13. To‘g‘ri burchakli uchburchakka ichki chizilgan aylananing radiusi katetlar ayirmasining yarmiga teng. Katta katetning kichik katetga nisbatini toping.
A) $\sqrt{2}$ B) $\sqrt{3}$ C) 2 D) 3
14. To‘g‘ri burchakli uchburchak katetlari 8 va 15 ga teng. Shu uchburchakka ichki chizilgan aylana markazidan, uchburchakning to‘g‘ri burchagi uchigacha masofani toping.
A) $2\sqrt{2}$ B) $3\sqrt{2}$ C) $2\sqrt{3}$ D) $3\sqrt{3}$
15. To‘g‘ri burchakli uchburchakka ichki chizilgan aylana gipotenuzani 2:3 nisbatda ikki qismga ajratadi. Agar uchburchak perimetri 72 bo‘lsa, katetlar yig‘indisini toping.
A) 42 B) 36 C) 48 D) 54

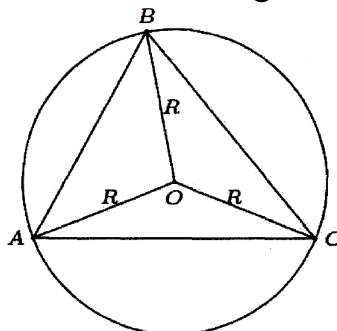
16. To‘g‘ri burchakli uchburchakka ichki chizilgan aylananing urinish nuqtasi gepotenuzadan uzunliklari 3 va 10 ga teng kesmalar ajratadi. Uchburchakning yuzini toping.
A) 15 B) 12 C) 30 D) 21
17. To‘g‘ri burchakli uchburchakka ichki chizilgan aylananing markazidan gipotenuza uchlarigacha bo‘lgan masofalar $\sqrt{5}$ va $\sqrt{10}$ ga teng. Gipotenuzaning uzunligini toping.
A) 5 B) $\frac{1}{2}\sqrt{50}$ C) $\sqrt{50}$ D) 6
18. Aylananing O markazi to‘g‘ri burchakli ABC uchburchakning AC gepotenuzasida yotadi. Uchburchakning katetlari aylanaga urinadi. Agar OC kesmaning uzunligi 4 ga, C nuqtadan CB katetning aylana bilan urinish nuqtasigacha bo‘lgan masofa 3 ga teng bo‘lsa, CB ni toping.
A) $3 + \sqrt{7}$ B) 7 C) 8 D) $4 + \sqrt{7}$
19. Aylanaga ichki chizilgan uchburchakning bir tomoni uning markazidan, qolgan tomonlari esa markazdan 3 va $3\sqrt{3}$ ga teng masofadan o‘tadi. Aylananing radiusini toping.
A) 6 B) 12 C) 3 D) 9
20. To‘g‘ri burchakli uchburchakka ichki chizilgan aylana radiusi 3 ga, tashqi chizilgan aylana radiusi 8 ga teng bo‘lsa, uchburchak yuzini toping.
A) 53 B) 57 C) 74 D) 80
21. To‘g‘ri burchakli uchburchakka ichki va tashqi aylanalar chizilgan. Agar uchburchakning katetlari 6 va 8 ga teng bo‘lsa, aylanalar markazlari orasidagi masofani toping.
A) $\sqrt{3}$ B) 2 C) $\sqrt{5}$ D) $\sqrt{6}$
22. To‘g‘ri burchakli uchburchakning gipotenuzasiga o‘tkazilgan balandlik uni ikkita kichikroq to‘g‘ri burchakli uchburchaklarga ajratadi. Agar shu kichikroq uchburchaklarga ichki chizilgan aylana radiuslari mos ravishda 3 va 4 ga teng bo‘lsa, berilgan uchburchakka ichki chizilgan aylana radiusini toping.
A) 5 B) 6 C) 7 D) 8

23. Katetlari 3 va 4 ga teng bo‘lgan to‘g‘ri burchakli uchburchakning gipotenuzasiga o‘tkazilgan balandlik uni ikkita kichikroq to‘g‘ri burchakli uchburchaklarga ajratadi. Shu kichikroq uchburchaklarga ichki chizilgan aylanalarni markazlari orasidagi masofani toping.
A) 1 B) 1,5 C) $\sqrt{2}$ D) $\sqrt{3}$
24. Teng yonli uchburchakning asosi 16 cm ga, yon tomoni esa 10 cm ga teng. Shu uchburchakka ichki va tashqi chizilgan aylana markazlari orasidagi masofani toping.
A) 10 cm B) 15 cm C) 20 cm D) 25 cm
25. Teng yonli uchburchakka ichki chizilgan aylana radiusi r . Asosiga o‘tkazilgan balandlik aylana bilan kesishib, uchburchak uchidan boshlab hisoblaganda 1:2 nisbatda bo‘linadi. Uchburchak yuzini toping.
A) $2\sqrt{3}r^2$ B) $3\sqrt{2}r^2$ C) $3\sqrt{3}r^2$ D) $2\sqrt{2}r^2$
26. Ikkita burchagi 45° va 15° bo‘lgan uchburchakning eng katta tomoni $2\sqrt{3}$ ga teng. Uchburchakka tashqi chizilgan aylananing radiusini toping.
A) $\sqrt{6}$ B) 2 C) $\sqrt{3}$ D) 4
27. 60° ga teng A burchakka aylana ichki chizilgan. Bu aylana burchak tomonlariga B va C nuqtalarda urinadi. $BC=5$, AC ni toping.
A) 10 B) 5 C) 8 D) 6
28. Uchburchakning uchlaridan unga ichki chizilgan aylananing urinish nuqtalarigacha bo‘lgan masofalar 2, 3 va 5 ga teng. Shu uchburchakning perimetrini toping.
A) 19 B) 18 C) 24 D) 20
29. Rasmda ABC uchburchakka aylana ichki chizilgan. Agar $AB=14$, $BC=13$ va $AC=15$ bo‘lsa, aylana markazi O nuqtadan A nuqtagacha bo‘lgan masofani toping.



- A) $\sqrt{52}$ B) $\sqrt{65}$ C) $\sqrt{80}$ D) $\sqrt{84}$

30. Rasmda ABC uchburchakka aylana tashqi chizilgan. Agar $AB=13$, $BC=14$ va $AC=15$ bo'lsa, aylana markazidan AB tomonga eng qisqa masofani toping.



- A) $\frac{33}{8}$ B) $\frac{25}{8}$ C) $\frac{39}{8}$ D) $\frac{65}{8}$

31. To'g'ri burchakli uchburchakning katta kateti $4\sqrt{2}$ ga teng, kichik kateti gepotenuzasidan 3 marta kichik. Shu uchburchakka ichki chizilgan aylananing uzunligini toping.

- A) $2(2\sqrt{2} + 1)\pi$ B) $4(\sqrt{2} + 1)\pi$ C) $2(\sqrt{2} - 1)\pi$ D) $4(\sqrt{2} - 1)\pi$

32. ABC uchburchakda $\angle A=40^\circ$. Agar unga tashqi chizilgan aylananing markazi AC tomonda yotsa, uchburchakning C burchagini toping.

- A) 40° B) 20° C) 50° D) 80°

33. ABC uchburchakka ichki chizilgan aylanaga o'tkazilgan urinma BC va AC tomonlarni mos ravishda A_1 va B_1 nuqtalarda kesib o'tadi. Agar $BC = 5$, $AC = 6$, $AB = 7$ bo'lsa, A_1B_1C uchburchakning perimetrini toping.

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

34. O'tkir burchakli uchburchakning ikki tomonining uzunliklari ayirmasi 2 cm ga teng, bu tomonlarining uchinchi tomonga proyeksiyalari 9 cm va 5 cm bo'lsa, uchburchakka tashqi chizilgan aylana radiusini toping.

- A) $8\frac{1}{8}$ B) $7\frac{2}{7}$ C) $6\frac{3}{10}$ D) $5\frac{5}{2}$

35. Teng yonli to'g'ri burchakli uchburchakning kateti $\sqrt{2}$ ga teng. Shu uchburchakning medianalari kesishgan nuqtasidan bissektrisalari kesishgan nuqtasigacha bo'lgan masofani toping.

- A) $\frac{\sqrt{2}-1}{2}$ B) $\frac{2-\sqrt{3}}{3}$ C) $\frac{2\sqrt{3}-3}{6}$ D) $\frac{3\sqrt{2}-4}{3}$

36. Teng yonli to'g'ri burchakli uchburchak R radiusli doiraga ichki chizilgan. Boshqa aylana bu uchburchakning katetlariga va birinchi aylanaga urinadi. Shu aylananing radiusini toping.

- A) $\frac{2}{3}R$ B) $\frac{R\sqrt{3}}{4}$ C) $2R(\sqrt{2} - 1)$ D) $R(\sqrt{2} - 1)$

37. ABC uchburchakda D va E nuqtalar BC tomonni uchta teng qismlarga bo'ladi. ($BD=DE=EC$), F va G nuqtalar esa AD kesmani 3 ta teng qismlarga bo'ladi ($AF=FG=GD$). AFE uchburchakning yuzining ABC uchburchak yuziga nisbatini toping.
- A) $\frac{1}{3}$ B) $\frac{1}{4}$ C) $\frac{1}{9}$ D) $\frac{1}{12}$
38. ABC uchburchakda D nuqta BC tomonni ikkita teng qismlarga bo'ladi. ($BD=DC$), E nuqta esa AC kesmani 2 ta teng qismlarga bo'ladi ($AE=ED$). ACE uchburchakning yuzining ABC uchburchak yuziga nisbatini toping.
- A) $\frac{1}{3}$ B) $\frac{1}{4}$ C) $\frac{1}{9}$ D) $\frac{1}{12}$
39. Uchburchakning burchaklaridan biri 60° , unga tashqi chizilgan aylana radiusi $\frac{7}{\sqrt{3}}$ ga, ichki chizilgan aylana radiusi $\sqrt{3}$ ga teng. Uchburchakning yuzini toping.
- A) $10\sqrt{3}$ B) $5\sqrt{3}$ C) $20\sqrt{3}$ D) $8\sqrt{3}$
40. Uchburchak ichidan ikkita nuqta shunday olinganki ularning biridan uchburchak tomonlarigacha masofalar 1 cm, 3 cm va 15 cm bo'lib, ikkinchisidan uchburchak tomonlarigacha (xuddi shu ketma-ketlikda) masofalar 4 cm, 5 cm va 11 cm ga teng. Shu uchburchakka ichki chizilgan aylana radiusini toping.
- A) 5 cm B) 6 cm C) 7 cm D) 8 cm

Kalitlar

1.	C	16.	C	31.	D
2.	D	17.	A	32.	C
3.	B	18.	A	33.	A
4.	C	19.	A	34.	A
5.	B	20.	B	35.	D
6.	C	21.	C	36.	C
7.	A	22.	A	37.	C
8.	D	23.	C	38.	B
9.	D	24.	D	39.	A
10.	C	25.	C	40.	C
11.	A	26.	B		
12.	C	27.	B		
13.	B	28.	D		
14.	B	29.	C		
15.	A	30.	C		