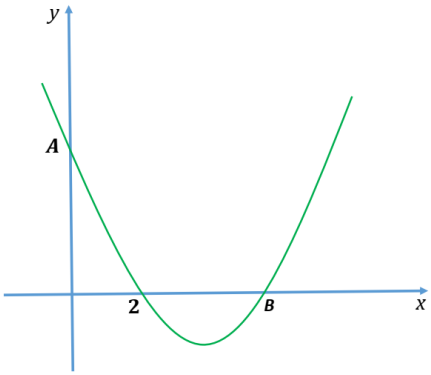
NAMUNA 10-SINF UCHUN

1. $f(x) = x^2 - 7x + m \quad \Longrightarrow \quad AB = ?$



A) 50 B) $10\sqrt{2}$ C) $\sqrt{10}$ D) 2

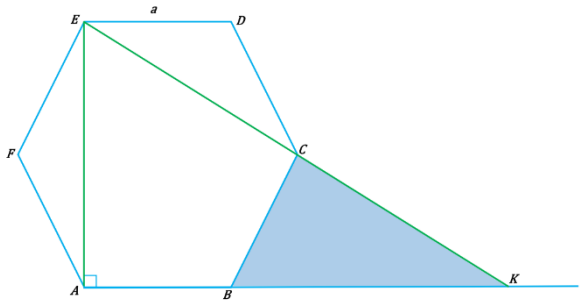
2. $\begin{cases} a_1 + a_5 = \frac{5}{3} \\ a_3 \cdot a_4 = \frac{65}{72} \end{cases}$ bo‘lsa, arifmetik progressiyaning dastlabki o‘nta hadi yig‘indisini toping.

A) $14\frac{7}{12}$ B) $10\frac{5}{12}$ C) $7\frac{7}{9}$ D) $14\frac{1}{9}$

3. $ABCDEF$ muntazam oltiburchakning AB tomoni va EC diagonali davom ettirilishidan ΔAEK to‘g‘ri burchakli uchburchak hosil bo‘ladi. Bu yerda a=6 ga teng.

a) EK kesma uzunligini toping.

b) ΔBCK yuzi nimaga teng?



A) $EK = 12\sqrt{3};\ S = 18\sqrt{3}$ B) $EK = 3\sqrt{2};\ S = 12$

C) $EK = 6\sqrt{3};\ S = 12\sqrt{2}$ D) $EK = 2\sqrt{3}; S = 6\sqrt{3}$

4. $y = \sqrt{\frac{2x+3}{7-0,2x}}$ f unksiyaning aniqlanish sohasida nechta butun son yotadi?

A) 36 B) 37 C) 39 D) 34

5. Berilgan mulohaza to‘g‘ri yoki noto‘g‘ri ekanligini aniqlang.

Mulohaza	Ha	Yo‘q
1. $y = 2x - 1$ funksiya har doim o‘suvchi funksiya		
2. $y = 1 - \sqrt{x}$ funksiya har doim o‘suvchi funksiya		
3. $y = \frac{1}{\sqrt{2x}}$ funksiya har doim o‘suvchi funksiya		
4. $y = x^3 + 1$ funksiya har doim o‘suvchi funksiya		

A) 1-ha, 2-yo‘q, 3-yo‘q, 4-ha

B) 1-ha, 2-ha, 3-yo‘q, 4-ha

C) 1-ha, 2-yo‘q, 3-yo‘q, 4-yo‘q

D) 1-ha, 2-yo‘q, 3-ha, 4-yo‘q

6. Bir nechta bolalar 50 ta olmani o‘rtalarida taqsimlashdi. Bunda har bir bola kamida 1 ta olmaga hamda hech bir ikkita bola bir xil sondagi olmalarga ega bo‘lishmadi. Ko‘pi bilan nechta bola olmalar olgan?

A) 9 B) 11 C) 10 D) 8

7. 4 nafar o‘quvchidan ikki nafarini “Bilimlar bellashuvi” da qatnashish uchun tanlab olish kerak. Buni necha xil usulda bajarish mumkin.

A) 6 B) 8 C) 4 D) 10

8. Qutida 4 ta qizil, 5 ta ko‘k va 3 ta sariq shar bor. Tasodifan tanlangan bitta shar sariq yoki ko‘k bo‘lishi ehtimolligini toping.

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

9. Berilgan tasdiqlardan qaysilari doim to‘g‘ri, ba’zan to‘g‘ri, hech qachon to‘g‘ri emas?

	Doim to‘g‘ri	Ba’zan to‘g‘ri	Hech qachon to‘g‘ri emas
1. *ABCD* to‘rtburchakning dioganallari *O* nuqtada kesishsa, hamda *AO·BO=CO·DO* bo‘lsa, $AD \parallel BC$ bo‘ladi.	*A*	*B*	*C*
2. Uchburchakning katta tomoni unga tashqi chizilgan aylana diametri bo‘ladi.	*A*	*B*	*C*
3. Muntazam beshburchakning barcha diagonallari o‘zaro teng.	*A*	*B*	*C*
4. To‘g‘ri to‘rtburchakka ichki chizilgan aylana radiusi kichik tomoni uzunligining yarmiga teng bo‘ladi.	*A*	*B*	*C*
5. Aylanadan olingan ixtiyoriy *AB* va *CD* vatarlar *K* nuqtada kesishsa, ular uchun *AK·CK=KB·KD* tenglik o‘rinli.	*A*	*B*	*C*

A) 1-*A*, 2-*B*, 3-*A*, 4-*C*, 5-B

B) 1-*B*, 2-*B*, 3-*B*, 4-*C*, 5-*A*

C) 1-*A*, 2-*A*, 3-*A*, 4-*B*, 5-*A*

D) 1-*A*, 2-*B*, 3-*A*, 4-*C*, 5-*A*

10. $\frac{1}{sin^2\alpha} - 1$; $cos^2\alpha$; $\frac{1-cos4\alpha}{8}$ ifodalar geometrik progressiyaning hadlari bo‘lsa, uning 10-hadini toping.

A) $cos^2\alpha \cdot sin^{16}\alpha$ B) $cos^6\alpha \cdot sin^2\alpha$ C) $\frac{1}{6}cos^2\alpha \cdot sin^8\alpha$ D) $\frac{1}{3}cos^8\alpha \cdot sin^3\alpha$

11. $|x-1|+x=1$ tenglamani yechung

A) $(-\infty;1]$ B) 1 C) 0 D) $(0;\infty)$

12. Agar $tgx=2$ bo‘lsa, $\frac{3sinx-5cosx}{4sinx+cosx}$ ifodaning son qiymatini toping.

A) -1 B) $\frac{1}{2}$ C) 2 D) $\frac{1}{9}$

13. Jadvalda berilgan mulohazalarga o‘ng ustundagi mos javobni aniqlang:

I. Uchburchakka ichki chizilgan aylana radiusi $r=\frac{a}{2\sqrt{3}}$ II. Uchburchakning katta tomoni yarmi tashqi chizilgan aylana radiusiga teng. III. Uchburchakka tashqi chizilgan aylana radiusi – R, a tomon qarshisidagi burchak α uchun $a=2Rsin\alpha$ tenglik o‘rinli. IV. Uchburchak uchun $h_a=\frac{\sqrt{4a^2-b^2}}{2}$ formula o‘rinli.	A. To‘g‘ri burchakli uchburchak B. Barcha uchburchaklar C. Muntazam uchburchak D. O‘tmas burchakli uchburchak E. Teng yonli uchburchak

A) I - C; II – A; III – B; IV - E

B) I - A; II – E; III – B; IV - D

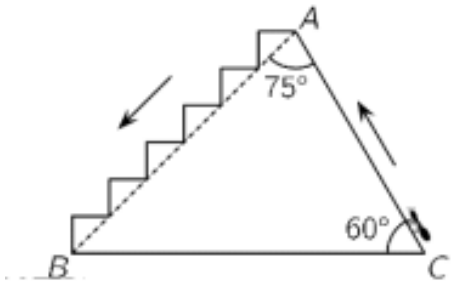
C) I - C; II – E; III – B; IV – B

D) I - A; II – C; III – B; IV - E

14. $sin37°=\alpha$ bo‘lsa, $sin16°$ ni α orqali ifodalang.

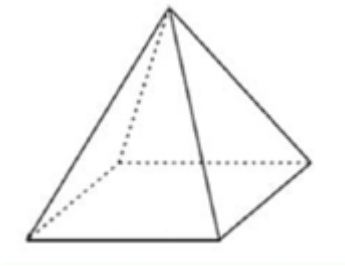
A) $1-2a^2$ B) a-1 C) a^2-1 D) a^2+1

15. Chumoli *CA* yo‘lida *C* dan *A* ga ko‘tarilib, rasmda ko‘rsatilgandek, zinapoyalarda *A* dan *B* gacha tushdi. Ko‘tarilish va tushish yo‘llarining uzunliklari nisbati qanchaga teng?



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

16. Parizoda asosi kvadrat bo‘lgan piramidaning uchlarini 1, 2, 3, 4 va 5 raqamlari bilan belgiladi. U har bir yoq uchun, shu yoq uchlaridagi sonlarning yig‘indisini hisobladi. Shu yig‘indilardan 4 tasi quyidagicha: 7, 8, 9 va 10. Beshinchi yoqdagi yig‘indi nechaga teng?



A) 13 B) 12 C) 11 D)14 E) 15

17. $x^2 - 3kx - 3k + 1 = 0$ tenglama ildizlari uchun $2x_1 + x_2 = 1$ tenglik o‘rinli bo‘lsa, k ning qiymatini toping.

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

18. R radiusli aylana ichida bir xil radiusli 4 ta aylana joylashtirilgan. Aylanalar katta aylanaga ham o‘zaro urinadi. Kichik aylanalar radiuslarini va umumiy bo‘lmagan sohaning yuzasini toping.

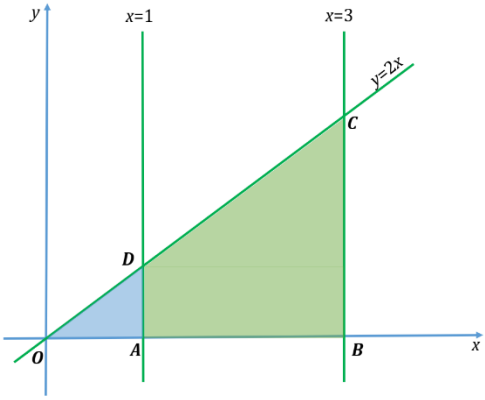
A) $r = R(\sqrt{2} - 1)$; $S = (8\sqrt{2} - 11)\pi R^2$

B) $r = \frac{\sqrt{2}}{4}R$; $S = \frac{3}{4}\pi R^2$

C) $r = R(\sqrt{3} - 1)$; $S = (6\sqrt{3} - 7)\pi R^2$

D) $r = R(\sqrt{2} - \sqrt{3})$; $S = (4\sqrt{6} - 5)\pi R^2$

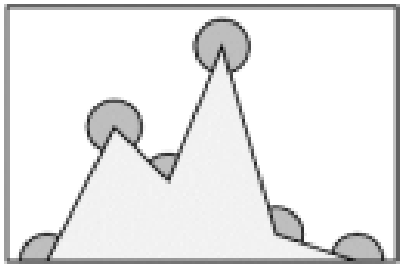
19. $y = 2x,\ \ x = 1$ va $x = 3$ to‘g‘ri chiziqlar grafiklari chizildi.



Hosil bo‘lgan *ABCD* to‘rtburchak yuzini toping;

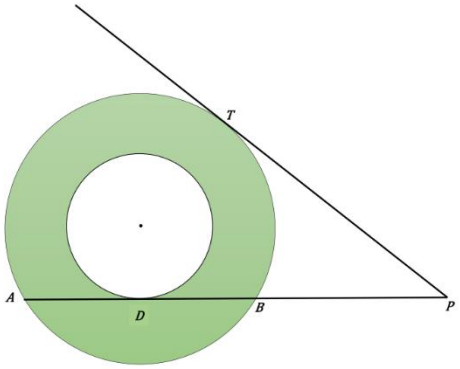
A) 8 B) 9 C) 5 D) 7

20. Rasmda belgilangan oltita burchakning yig‘indisini toping.



A) 1080° B) 360° C) 900° D) 1120°

21. Quyidagi shaklda *O* markazli aylanalarga *T* va *D* nuqtalarda urunma o‘tkazildi. Agar $PT = 6\sqrt{2},\ PB = 4$ ekanligi ma’lum bo‘lsa, bo‘yalgan sohaning yuzini toping.



A) 81π B) 25π C) 49π D) 64π

22. Muntazam *n* burchakning ichki bir burchagi tashqi bir burchagidan 4 marta katta bo‘lsa, bu ko‘pburchakning diagonallar soni nechta?

A) 35 ta B) 15 ta C) 36 ta D) 16 ta

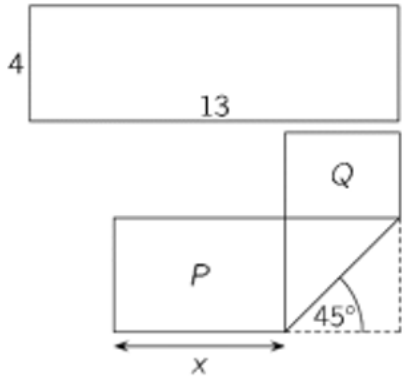
23. Hisoblang: $\sqrt[3]{3^2 \cdot \sqrt{2 \cdot \sqrt[3]{3^2 \cdot \sqrt{2 \ldots}}}} = ?$

A) $3 \cdot \sqrt[5]{\frac{2}{3}}$ B) $3\sqrt{2}$ C) $\sqrt{3\sqrt{2}}$ D) $\sqrt{18}$

24. Istirohat bog‘i teng tomonli uchburchakka o‘xshaydi. Mushuk yuqori burchakdan pastki o‘ng burchakka uchta ko‘rsatilgan yo‘llardan biri (qalin chiziqlar) bo‘ylab yurmoqchi. Yo‘llarning uzunligi P, Q va R ga teng. Berilgan javoblardan qaysi birida yo‘lning uzunligi to‘g‘ri ko‘rsatilgan?

A) P < R < Q B) P < Q < R C) P < Q = R D) P = R < Q E) P = Q = R

25. 4x13 o‘lchamli to‘g‘ri to‘rtburchchakli qog‘oz o‘ng tomondagi rasmda ko‘rsatilganidek buklangan. Natijada *P* va *Q* to‘g‘ri to‘rtburchaklar hosil bo‘ldi. P=2Q bo‘lsa, *x* ning qiymatini toping.



A) 6 B) 5,5 C) 5 D)6,5