XORAZM ILM ZIYO

MATEMATIKA

VARIANTLAR TO‘PLAMI

2018

MATEMATIKA

2018

VARIANTLAR

XORAZM ILM ZIYO - 2019

Variant-16

1. $20-15-13-1$ ifodaga qavslar qo‘yilganda nechta turli xil natijalar olish mumkin?
A) 4 B) 5 C) 2 D) 7

2. Hisoblang:
$$\left(\frac{\sqrt{10}+\sqrt{7}}{\sqrt{5}+1}\cdot\frac{\sqrt{10}-\sqrt{7}}{\sqrt{5}-1}\right):\left(\frac{1}{\sqrt{3}}-\frac{\sqrt{3}}{9}+\frac{1}{\sqrt{27}}\right)$$
A) $\frac{3\sqrt{3}}{4}$ B) $3\sqrt{3}$ C) $\sqrt{3}$ D) 1

3. $(x+a-1)^{2018}-x^{30}-1$ ko‘phadning ozod hadi 0 ga teng bo‘ladigan a ning barcha qiymatlari yig‘indisini toping.
A) 2018 B) 2019 C) 2000 D) 2

4. $a^2-b^2+8a-2b+15$ ko‘phadning ko‘paytuvchilaridan birini toping.
A) $a-b+5$ B) $a+b-5$
C) $a+b-3$ D) $a-b+3$

5. Agar biror oyda 5 ta payshanba bo‘lsa, shu oyda . . . bo‘la olmaydi.
A) 5 ta shanba B) 5 ta yakshanba
C) 5 ta seshanba D) 5 ta juma

6. $\frac{\sqrt{6+x^2}}{6+x}=6-x$ tenglamaning ildizlari kvadratlari yig‘indisini toping.
A) 86 B) 30 C) 60 D) 146

7. Agar $x^2-3x+1=0$ bo‘lsa, $x^2+\frac{1}{x^2}$ ning son qiymatini toping.
A) 7 B) 8 C) 5 D) 6

8. $(x^2-6)x=a$ tenglama a ning qanday qiymatlarida 3 ta haqiqiy ildizga ega bo‘ladi?
A) $\pm4\sqrt{2}$ B) $\pm\sqrt{2}$ C) $\left(-4\sqrt{2};4\sqrt{2}\right)$
D) $\left(-\infty;-4\sqrt{2}\right)\cup\left(4\sqrt{2};\infty\right)$

9. Tengsizlikni yeching:
$(x-3)^{16}+\sqrt{x+1}\ge 1$
A) $[-1;\infty)$ B) $(-\infty;\infty)$
C) $[3;\infty)$ D) $[1;\infty)$

10. Agar $\begin{cases}2\le x\le 28\\ \frac{7}{3}\le y\le 7\end{cases}$ bo‘lsa, $\frac{x+3y}{y}$ qanday oraliqqa tegishli bo‘ladi?
A) $\left[\frac{14}{3};196\right]$ B) $\left[3\frac{2}{7};15\right]$
C) $\left[7;\frac{125}{2}\right]$ D) $\left[3\frac{6}{7};7\right]$

11. Ayirmasi noldan farqli arifmetik progressiyada to‘rtinchi hadidan o‘n to‘rtinchi hadigacha bo‘lgan hadlari yig‘indisi 55 ga teng. Arifmetik progressiyaning nechanchi hadi 5 ga teng bo‘ladi?
A) 10 B) 9 C) 11 D) 12

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12. Ifodani soddalashtiring:
$$((\sin\alpha)^{-1}+(tg\alpha)^{-1}):\left(tg\frac{\alpha}{2}\right)^{-1}$$
A) $tg^2\frac{\alpha}{2}$ B) $tg\frac{\alpha}{2}$ C) 1 D) 2

13. Soddalashtiring:
$$\left(\sin115^\circ+\sin25^\circ\right)\cdot\left(\sin65^\circ+\sin155^\circ\right)+$$
$$+\left(\sin25^\circ-\sin115^\circ\right)\cdot\left(\sin155^\circ-\sin65^\circ\right)$$
A) $\sin50^\circ$ B) $\sin40^\circ$ C) 0 D) 2

14. Agar $0<\alpha,\ \beta<\frac{\pi}{2}$,
$tg\alpha=\frac{\sqrt{3-\sqrt{3}}\cdot\sqrt{3}}{4-\sqrt{3-\sqrt{3}}}$ va
$tg\beta=\frac{\sqrt{3-\sqrt{3}}-1}{\sqrt{3}}$ bo‘lsa, $\alpha-\beta$ ni toping.
A) $\frac{\pi}{3}$ B) $\frac{\pi}{12}$ C) $\frac{\pi}{4}$ D) $\frac{\pi}{6}$

15. $\cos^2 4x+tg2x\cdot\sin4x=\cos4x$

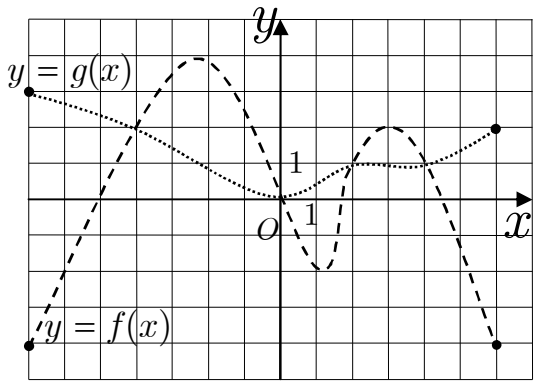
tenglamaning $(0;\pi]$ oraliqqa tegishli ildizlari sonini toping.
A) 1 B) 2 C) 3 D) 4

16. $\begin{cases} f(x)=ax+b \\ g(x)=cx+d \end{cases}$ agar $\frac{b}{d}=5$ va $f(g(x))=g(f(x))$ ayniyat bo‘lsa, $\frac{c-1}{a-1}$ ni toping. $(a\neq 1)$

A) $\frac{1}{5}$ B) 1 C) 0 D) 5

17. Chizmada $[-7;6]$ kesmada berilgan $y=f(x)$ va $y=g(x)$ funksiyalarning grafiklari tasvirlangan. $g(x)>f(x)$ tengsizlikni qanoatlantiradigan x ning barcha qiymatlarini toping.

_____ $y=f(x)$; ..... $y=g(x)$



A) $(-4;4)$ B) $[-4;0]\cup[2;4]$
C) $(-4;0)\cup(2;4)$
D) $[-7;-4)\cup(0;2)\cup(4;6]$

18. $\frac{2^a+4\cdot 2^b}{2^a-2\cdot 2^b}=5$ bo‘lsa, 2^{a-b+1} ning qiymatini toping.
A) 5 B) 7,5 C) 2 D) 7

19. Hisoblang:
$(\log_5 4+\log_4 5+2)\cdot(\log_5 4-\log_{20} 4)\cdot$
$\cdot\log_4 5-\log_5 4.$
A) 1 B) 2 C) 3 D) 4

20. $y=\log_x e+\ln x$ funksiyaning qiymatlar to‘plamini toping. $(x>1)$
A) $(1;\infty)$ B) $[2;\infty)$
C) $[2;e]$ D) $[e;\infty)$

21. Agar $-3<\log_{0,5} a<-2$ va $2<\log_{0,5} b<4$ bo‘lsa, $a\cdot b$ ning qabul qilishi mumkin bo‘lgan barcha qiymatlarini toping.
A) $(0{,}25;2)$ B) $(2;4)$
C) $(1;3)$ D) $(0{,}25;4)$

22. $y=f(x)$ funksiyaning $(-2;10)$ nuqtasidan o‘tkazilgan urinma koordinatalar boshidan o‘tadi. Shu funksiyaning $x_0=-2$ nuqtadagi hosilasini toping.
A) 5 B) -5 C) 20 D) -20

23. Hisoblang:
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$\int\left[\left(1+tg(20^\circ+x)\right)\cdot\left(1+tg(25^\circ-x)\right)\right]dx$
A) $2x^2+C$ B) x^2+C
C) $2x+C$ D) $x+C$

24. Quyida keltirilgan tasdiqlardan qaysilari noto‘g‘ri?
1) Agar ikkita aylanalar radiuslari 5 va 7, ularning markazlari orasidagi masofa 3 ga teng bo‘lsa, u holda aylanalar umumiy nuqtaga ega emas; 2) Agar parallelogrammning diagonallari teng va perpendikulyar bo‘lsa, u holda bu parallelogramm kvadratdir; 3) Vertikal burchaklar teng emas, bunda ularning yig‘indisi 180° ga teng, faqat agar ular to‘g‘ri burchak bo‘lsa; 4) Kvadratning diagonallari uning burchaklarini teng ikkiga bo‘ladi.
A) 1; 3 B) 2; 4 C) 2; 3 D) 1; 4

25. Madina olma, nok va mandarin yemoqchi, ammo bu ishni qanday ketma-ketlikda amalgam oshirish yuzasidan hech qanday qarorga kelmadi. Madina bunday ketma-ketlikni nechta usul bilan tanlashi mumkin.
A) 9 B) 3 C) 1 D) 6

26. ABC uchburchakda $AB = 13$, $BC = 15$, $AC = 14$ va $BN : NC = 2 : 1$ bo‘lsa, AN kesmaning uzunligini toping.

A) 13,5 B) 12 C) $\sqrt{127}$ D) $\sqrt{137}$

27. $ABCD$ parallelogrammda BH perpendikulyar o‘tkazilgan bo‘lib, H nuqta AD kesmada yotadi. Agar $AH = 6$, $HD = 10$, $\angle ABH = 30^\circ$ ekanligi ma’lum bo‘lsa, parallelogrammning yuzini toping.

A) $96\sqrt{2}$ B) $96\sqrt{6}$

C) $48\sqrt{3}$ D) $96\sqrt{3}$

28. Teng yonli $ABCD$ trapetsiyada AC dioganal CD tomonga perpendikulyar. Agar $AD = 4$, $|AB|^2 + |BC|^2 = 11$ bo‘lsa, $|AB|$ ni toping.

A) 3 B) $\sqrt{2}$ C) 2 D) 1,5

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29. $y = x - 4$ funksiya uchun $A(8; -4)$ nuqtaga nisbatan simmetrik bo‘lgan funksiyani toping.

A) $y = -x - 20$ B) $y = -x + 4$

C) $y = -x - 4$ D) $y = x - 20$

30. Radiusi $4\sqrt{2}$ ga teng bo‘lgan sharga konus ichki chizilgan. Konusning yasovchisi asos tekisligi bilan 60° li burchak tashkil etadi. Konusni yon sirtini toping.

A) 54π B) 24π C) 48π D) 32π

VARIANTLAR JAVOBLARI

№	Variant nomerlari																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	B	A	B	D	A	A	B	A	D	B	B	A	C	A	A	A	A	B
2	C	B	C	A	D	A	D	A	A	C	C	C	A	C	A	A	D	D
3	B	D	C	A	C	D	A	A	B	A	B	A	C	B	B	D	C	D
4	A	C	D	A	C	C	D	C	C	A	C	A	B	D	B	D	A	C
5	C	C	C	B	D	A	D	A	C	C	A	B	A	B	A	B	D	B
6	B	A	D	A	B	A	D	D	B	A	A	A	D	C	C	C	A	D
7	D	D	A	D	A	B	B	B	D	A	B	C	B	A	A	A	D	C
8	D	D	B	D	B	B	A	B	C	B	D	B	B	A	B	C	D	A
9	B	B	C	D	B	C	A	D	A	C	A	D	A	A	A	A	D	C
10	D	C	D	B	A	A	C	B	C	D	D	C	C	D	A	B	C	A
11	C	D	D	A	C	D	D	B	B	C	D	B	B	D	B	B	B	A
12	C	A	A	C	A	A	A	C	A	D	B	B	A	A	A	C	C	A
13	D	D	A	B	D	A	B	C	A	B	D	C	C	A	B	D	D	B
14	A	D	B	B	A	B	D	A	C	B	A	C	C	C	A	D	D	C
15	B	B	D	D	A	A	A	C	C	B	C	A	A	B	A	B	C	D
16	A	A	D	B	D	A	D	C	B	C	A	D	C	B	B	A	C	D
17	C	C	D	C	B	D	D	D	B	A	D	D	A	A	C	D	A	D
18	B	A	B	D	D	B	B	A	B	D	D	C	C	A	D	D	A	C
19	B	C	A	B	D	A	A	B	D	D	C	C	C	B	C	A	D	A
20	D	B	B	A	B	C	D	D	C	C	A	A	C	D	B	B	B	A
21	C	B	D	A	B	C	B	C	A	A	A	D	B	C	D	A	B	B
22	C	B	D	C	D	D	B	C	D	B	C	C	B	B	A	B	B	A
23	C	D	A	D	D	B	D	D	C	B	A	C	A	A	C	C	A	D
24	D	D	B	B	B	D	B	B	C	A	B	A	A	D	B	A	D	A
25	B	A	B	B	B	D	D	D	B	B	D	D	B	D	B	D	C	C
26	C	D	C	C	B	D	B	C	B	C	C	D	C	D	D	D	D	C
27	A	D	B	C	D	B	B	B	D	D	B	C	B	D	C	D	A	A
28	B	C	C	C	A	B	C	D	B	D	C	A	C	A	D	B	A	B
29	D	B	B	A	D	B	D	C	D	B	C	C	C	A	A	D	B	A
30	A	D	D	A	A	A	B	A	B	A	C	B	A	C	C	C	A	B
№	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Variant nomerlari																	

№	Variant nomerlari																	
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1	D	A	A	C	B	D	D	B	A	C	B	B	B	A	D	B	A	A
2	C	A	D	A	A	C	B	A	A	A	C	D	C	A	D	C	C	A
3	C	C	B	C	B	D	C	A	D	B	C	C	B	B	A	C	C	D
4	B	A	B	A	C	A	C	A	D	A	C	C	D	D	D	D	B	B
5	A	A	D	B	A	B	D	C	C	B	D	C	D	C	B	A	A	B
6	D	A	C	A	D	C	C	B	A	C	C	C	B	A	D	C	D	C
7	D	D	C	B	D	C	A	B	B	A	A	B	C	C	A	D	D	B
8	D	B	A	A	A	C	B	A	A	B	D	B	A	A	C	B	D	B
9	C	D	D	A	A	C	B	D	A	A	C	D	B	A	A	D	B	B
10	C	C	B	B	A	D	A	B	A	C	B	A	D	D	A	D	A	A
11	B	C	D	D	C	D	D	D	D	B	D	A	A	D	C	A	A	C
12	C	A	B	A	B	B	A	C	B	A	C	A	A	D	A	C	C	B
13	A	D	D	C	A	A	A	D	D	B	B	C	A	B	A	D	D	D
14	B	A	C	C	A	D	C	B	B	B	C	A	B	B	B	C	A	A
15	A	B	B	A	C	B	D	A	B	A	C	A	B	B	A	B	A	B
16	D	A	B	D	D	C	B	A	D	D	C	A	A	D	B	B	A	D
17	D	B	B	C	C	B	D	A	D	D	B	D	A	B	A	D	A	A
18	B	A	C	B	B	D	A	A	D	C	B	B	A	D	B	A	C	D
19	B	C	D	D	B	C	B	A	A	D	A	C	C	B	A	D	D	C
20	A	A	C	D	A	B	B	B	A	C	A	A	C	D	B	A	D	C
21	D	A	B	C	B	A	B	C	B	B	A	D	B	B	C	C	A	D
22	B	A	C	D	C	D	C	A	D	C	A	C	D	D	D	A	C	D
23	A	A	D	D	B	C	A	A	D	D	D	C	D	A	C	A	C	C
24	C	B	B	B	D	C	A	D	A	B	C	D	B	D	C	A	A	D
25	C	C	B	D	D	B	B	B	A	B	C	B	D	A	D	A	B	A
26	B	B	D	B	D	A	C	B	B	C	D	B	A	C	A	C	A	B
27	C	C	A	B	C	B	B	D	A	B	A	A	B	B	C	D	A	A
28	A	D	C	C	C	C	D	A	C	A	D	B	D	B	C	C	C	A
29	D	C	A	B	A	D	A	C	C	B	C	D	D	A	D	C	B	A
30	A	D	B	B	C	A	B	B	C	C	D	B	B	D	C	D	A	D
№	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
	Variant nomerlari																	

MATEMATIKA
2018
VARIANTLAR

Tuzuvchi: Salayev Sapabay Ro‘zmetovich

Testlar bo‘yicha ekspert: Yusupov Ulug‘bek Yarashboyevich

Usbbu variantlar to‘plami 2018-yil test imtihonlarida berilgan savollar asosida tuzilgan. Unda 30 talikdan bir-birini takrorlamaydigan 36 ta variant mavjud bo‘lib, 1080 ta umumiy test bazasini o‘z ichiga olgan. Mazkur variantlar to‘plami maktab, Akademik litsey, kasb – hunar kollejlari o‘quvchilari va abiturentlar uchun mo‘ljallangan.

Yechimlarini telegram kanalimizda kuzatib borishingiz mumkin.

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