

$$1. \frac{(\sqrt[3]{25})^{2x-1} \cdot 25^{2x-1}}{5^{2x-1}} = \frac{125^{x+1}}{25^{x+1}} \cdot 5^{x+1}$$

tenglamani yeching.

- A) 0,25
 B) 2,75
 C) $\frac{11}{16}$
 D) 0,5

2. Muntazam to'rtburchakli prizmaning diagonali 8 cm va u yon qirradi bilan 30° lik burchak tashkil etadi. Bu prizmaning to'la sirtini yuzini toping.

- A) $16(2\sqrt{6} + 1)$
 B) $16(\sqrt{6} + 1)$
 C) $16(3 + 2\sqrt{6})$
 D) $8(3 + 4\sqrt{6})$

3. Hisoblang.

$$\frac{5}{2+\sqrt{5}} + \frac{5}{\sqrt{5}+\sqrt{6}} + \dots + \frac{5}{4\sqrt{39}+25}$$

- A) 46
 B) -115
 C) 23
 D) 115

4. $f(x) = x(x + 1)$ bo'lsa, $f(1) + f(2) + f(3) + \dots + f(33)$ ning qiymatini toping.

- A) 9200
 B) 12400
 C) 13090
 D) 11800

5. $2ax + ay + 3az + 4x + 2y + 6z$ ni ko'paytuvchilarga ajrating.

- A) $(2x + y + 3z)(a + 2)$
 B) $(2x + y)(a + 2)(z + 3)$
 C) $(2a + 4y + z)(x + 2)$
 D) $(x + 3y + z)(a + 3)$

6. 9,8753 sonini yuzdan birlar xonasigacha yaxlitlang.

- A) 9,86
 B) 9,88
 C) 9,87
 D) 9,875

7. x va y burchaklar yig'indisi 210° ga teng. Bu burchaklarga qo'shni bo'lgan burchaklar yig'indisini toping.

- A) 30°
 B) aniqlab bo'lmaydi
 C) 150°
 D) 110°

8. $\frac{21-30}{10} + \frac{35-21}{15} : 2\frac{1}{3}$ ni hisoblang.

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

9. Maishiy texnika sotiladigan do'konda: 5 xil turdagi kir yuvish mashinasi, 7 xil turdagi changyutkich, 6 xil turdagi pech va 10 xil turdagi televizor sotilmoqda. Haridor 3 ta har xil turdagi texnikadan bittadan sotib olmoqchi. (Masalan: kir

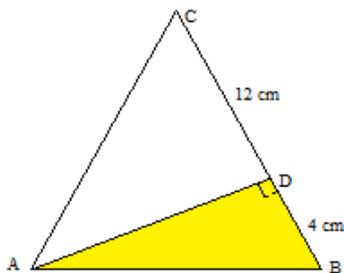
yuvish mashinasi, pech va televizor oldi) Buni necha xil usulda amalga oshirishi mumkin?

- A) 2100
- B) 287
- C) 1280
- D) 24

10. 50 gacha bo'lgan barcha tub sonlar yozib chiqilganda necha xonali son hosil bo'ladi?

- A) 22
- B) 30
- C) 26
- D) 28

11. Quyidagi chizmada keltirilgan ABC uchburchakda $|AD| \perp |BC|$ ga va bo'yalgan soha yuzasi 10 cm^2 ga teng. Uchburchakning AC tomoni uzunligini toping. (cm)



- A) 13
- B) $\sqrt{145}$
- C) $12\sqrt{2}$
- D) 15

12. $x^2 - 8x + 1 = 0$ tenglamaning kichik ildizi a ga teng bo'lsa, $a \cdot (\sqrt{15} + 4)$ ning qiymatini toping.

- A) $(4 + \sqrt{15})^2$
- B) 1
- C) $4 - \sqrt{15}$
- D) -11

13. $(5 - x)(x + 7) > 0$ tengsizlikni yeching.

- A) $(-\infty; -5) \cup (7; \infty)$
- B) $(-7; 5)$
- C) $(-\infty; -7) \cup (5; \infty)$
- D) $(-5; 7)$

14. $\sqrt{2x - 1} = \sqrt[4]{2x^2 + x - 1}$ tenglamaning butun bo'lmagan ildizlari sonini toping.

- A) 2
- B) butun bo'lmagan ildizi yo'q
- C) 1
- D) 3

15. Piramida asosining diagonallari soni 54 ga teng. Bu piramida qirralari sonini toping.

- A) 36
- B) 18
- C) 24
- D) 27

16. Arifmetik progressiyaning yigirma beshinchi hadidan o'ttizinchi hadini ayirsak 30 ga teng. Agar bu progressiyaning beshinchi hadi 17 ga teng bo'lsa, uning o'ninchi hadini toping.

- A) 47
B) -13
C) -47
D) 13

17. Quyidagi funksiyalardan qaysi biri

$y = \frac{3}{4}x + 5$ funksiyaga parallel funksiya hisoblanadi?

- A) $y = 1\frac{1}{3}x + 10$
B) $y = -0,75x + 5$
C) $y = 0,75x + 9$
D) $y = 0,75x + 5$

18. 180 va 420 sonlarining eng kichik umumiy karralisini toping.

- A) 840
B) 420
C) 60
D) 1260

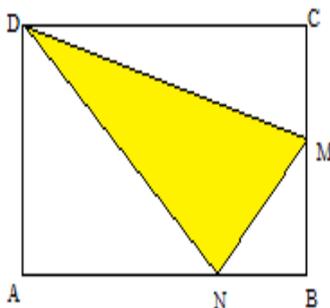
19. Agar $ctg5a = \frac{3}{4}$ bo'lsa,

$tg \frac{5a}{2}$ ning qiymatini toping.

$$\left(\frac{\pi}{5} < a < \frac{3\pi}{10}\right)$$

- A) 2
B) -2
C) 0,5
D) -0,5

20. Quyidagi chizmada tasvirlangan ABCD to'g'ri to'rtburchak uchun $|AD| = |AN|$; $|BN| = |BM| = 4 \text{ cm}$ va $|DC| : |CM| = 5 : 3$ kabi bo'lsa, bo'yalgan soha yuzasini toping. (cm^2)



- A) 64
B) 56
C) 128
D) 48

21.
$$\begin{cases} \frac{xy}{x+y} = 1\frac{5}{7} \\ \frac{xz}{x+z} = 1\frac{7}{8} \\ \frac{yz}{y+z} = 2\frac{2}{9} \end{cases}$$
 tenglamalar

sistemasidan $(x + y) \cdot z$ ning qiymatini toping.

- A) 60
B) 32
C) 35
D) 27

22. Tomoni 10 cm bo'lgan kvadratga tashqi va ichki chizilgan aylanalar orasidagi xalqaning yuzini toping. (cm^2)

- A) 25π
 B) 50π
 C) $12,5\pi$
 D) 20π

23. $f(x) = 3x^3 + 2ax^2 - 8x + 1$ funksiya berilgan. Agar $f''(1) = f'(2)$ bo'lsa, a ning qiymatini toping.

- A) $-2,5$
 B) $-\frac{5}{6}$
 C) -3
 D) aniqlab bo'lmaydi

24. $14^{2018} + 14^{2019} + 14^{4036}$ yig'indi qanday raqam bilan tugaydi?

- A) 0
 B) 4
 C) 6
 D) 8

25. $y = -4x^2 - 8$ va $y = 4x^2$ parabolalarga absissalar o'qi bilan o'tkir burchak tashkil qiladigan umumiy urinma o'tkazilgan. Shu urinmaning burchak koeffitsiyentini toping.

- A) -8
 B) -4
 C) 8
 D) aniqlab bo'lmaydi

26. $[4,2]^2 + [e^2] + [7,15] - \{3,4\}$ hisoblang.

Bu yerda: $[a] - a$ sonini butun qismi, $\{a\} - a$ sonini kasr qismi

- A) 29,6
 B) 29,4
 C) 12,6
 D) 24,6

27. Ikki vektorning uzunliklari 5 va 11 ga teng bo'lsa, bu vektorlar yig'indisi nechta butun qiymat qabul qilishi mumkin?

- A) 10
 B) 11
 C) 9
 D) 12

28. $x < -1$, $y < -3$, $z > 4$ bo'lsa,

$|x + y| - |x + 1| + |y + 3| + |4 - z| - |z - x|$ modullarni ochib, so'ng soddalashtiring.

- A) $-x + 8$
 B) $3x - 2y$
 C) $2y - 2x - 8$
 D) $x - 2y - 6$

29. Agar $a = \log_5 27$ bo'lsa, $\log_{45} 3$ ni a orqali ifodalang.

- A) $\frac{1}{a(2a+3)}$
 B) $\frac{2a+3}{a}$
 C) $a(2a + 3)$
 D) $\frac{a}{2a+3}$

30 . Agar $\frac{x+2y}{3y} = 4$ ga teng bo'lsa, $\frac{3x+2y}{x+2y}$ ning qiymatini toping.

A) $2\frac{2}{3}$

B) 3

C) $2\frac{10}{11}$

D) aniqlab bo'lmaydi

2-variant kalitlari

	0	1	2	3	4	5	6	7	8	9
		B	A	D	C	A	B	C	D	C
1	C	A	B	B	C	C	B	C	D	B
2	A	C	A	A	C	C	A	B	D	D
3	A									