

1. a va b natural sonlar uchun  $1, (36) \cdot a = b$  bo'lsa, b ning eng kichik qiymatini toping. A) 15 B) 11 C) 9 D) 6

2.  $7^{20}$  ning qiymatini 5 ga bo'lgandagi qoldiqni toping. A) 2 B) 3 C) 1 D) 4

3. Tenglamalar sistemasidan foydalanib  $x+y+z$  ning qiymatini toping. 
$$\begin{cases} 3x + y - 2z = 7 \\ 2x + 4y + 7z = 23 \end{cases}$$
 A) 6 B) 8 C) 10 D) berilganlar yetarli emas

4.  $x; y; z$  natural sonlar uchun  $\frac{49}{15} = 3 + \frac{1}{x + \frac{1}{y + \frac{1}{z}}}$  tenglikdan  $xyz$  ko'paytma qiymatini toping. A) 9 B) 16 C) 36 D) 18

5.  $\frac{x^2+xy+y^2}{y^2-x^2} : \frac{x^5-x^2y^3}{(x^2-xy)^3}$  ifodani soddalashtiring. A)  $\frac{x-y}{x+y}$  B)  $\frac{-x(x-y)}{x+y}$  C)  $\frac{x(x-y)}{x+y}$  D)  $\frac{-x(x-y)}{x-y}$

6. 1, 2, 3, 4 raqamlaridan foydalanib 400 dan kichik nechta uch xonali son yasash mumkin? A) 48 B) 36 C) 30 D) 60

7. Bir mahsulotning narxi 10% pasaydi, ma'lum vaqtdan so'ng 15% ga pasaydi. Shu mahsulotning narxi umumiy necha foizga kamaygan? A) 23,5 B) 22,5 B) 24,5 D) 25

8. Zarina va Madina birgalikda oynani 20 minutda, Madina va Nigora birgalikda 15 minutda, Zarina va Nigora esa birgalikda 12 minutda artib tozalaydi. Uchta qiz birgalikda shu vazifani qancha vaqtda bajaradi? A) 10 soat B) 8 minut C) 10 minut D) 6 soat

9.  $f(x) = \begin{cases} |2x-1|, & x < 1 \\ |x|+2, & x \geq 1 \end{cases}$  bo'lsa,  $f(5)+f(-3)$  ni toping. A) 6 B) 8 C) 12 D) 14

10.  $x(x-3)(x+4)(x-7) \leq 0$  tengsizlikning natural yechimi nechta. A) 4 B) 3 C) 5 D) 7

11.  $|x+1| \leq 3$  tengsizlikning eng kichik butun yechimi a bo'lsa,  $a^2-2a+2$  ning qiymatini toping. A) 26 B) 10 C) 24 D) 12

12.  $\frac{(3x-1)^2}{x-4} = \frac{121}{x-4}$  tenglamani bajaring. A) -10/3 B) 4 C) 10/3; 4 D) -10/3; 4

13.  $1 < \frac{4x-7}{3} < 3$  tengsizlik nechta butun yechimga ega A) 1 B) 2 C) 3 D) 0

14. 20 kg mevaning 99% suvdan iborat. Ma'lum vaqtdan so'ng suvning miqdori 98% bo'lganda mevaning og'irligini qanday bo'ladi? A) 19 B) 18 C) 15 D) 10

15. 72 km/soat tezlikda ma'lum yo'lga 3 soat 20 minut vaqt sarflandi. Shu yo'lni 2 soat 40 minutda bosib o'tish uchun qanday tezlikda harakatlanish kerak? A) 80 B) 85 C) 96 D) 90

16. Agar  $f(g(x))=x^2-5x+6$  va  $g(x)=x-2$  bo'lsa,  $f(4)$  ni toping. A) 12 B) 11 C) 4 D) 35

17.  $k$  ning qanday qiymatlarida  $k-2 = \frac{3x+1}{x+1}$  tenglama ildizi manfiy bo'ladi A)  $k \leq 3$  B)  $k < 3$  C)  $k > -5$ ;  $k < 3$  D)  $k < 3$ ;  $k > 5$

18. Merganning nishonga tekkizish ehtimoli 0,8 ga teng. U nishonga 3 marta o'q uzganda barcha o'qlari nishonga tegishining ehtimolligini toping. A) 0,512 B) 0,72 C) 0,8 D) 0,912

19.  $\frac{4a^2-16a+16}{a+3} : \frac{(a-2)^2}{-a^2+9}$  ifodani soddalashtiring. A)  $4a-12$  B)  $2a-12$  C)  $12-4a$  D)  $6-2a$

20. 2- sinfda 10 ta o'gil bola va 15 ta qiz bola o'quvchi bor. O'gil bolalarning o'rtacha bo'yi 80 cm, qizlarning o'rtacha bo'yi 65 cm. Butun sinfdagi o'quvchilarning o'rtacha bo'yi necha cm? A) 38 B) 45 C) 71 D) 72

21.  $\frac{2x-3}{4x-5} < -2$  tengsizlikning butun yechimlari nechta A) 1 B) 0 C) 2 D) 3

22.  $a; b; c$  haqiqiy sonlar uchun  $a^2 \cdot b > 0$ ;  $b^3 \cdot c^5 > 0$ ;  $a^7 \cdot c < 0$  tengsizliklar o'rinli bo'lsa,  $a, b$  va  $c$  larning ishoralarini aniqlang. A) -; -; + B) -; +; + C) +; +; - D) -; +; -

23.  $\frac{(2x-4)(7-x)}{x^2-6x} \geq 0$  tengsizlikning butun yechimlari yig'indisini toping. A) 6 B) 7 C) 9 D) 10

24. Ifoda qiymatini soddalashtiring.  $a \in (-2; 2)$  bo'lsa, ifodani soddalashtiring. 
$$\frac{|a^2-16|}{4-a} - \frac{|a^2-9|}{3+a} - \frac{|4-a^2|}{2-a}$$
 A)  $a-6$  B)  $2-a$  C)  $-3(a+1)$  D)  $a-1$

25.  $\left(\frac{3a}{a+6} - \frac{2a}{a^2+12a+36}\right) : \frac{3a+16}{a^2-36} + \frac{6(a-6)}{a+6}$  ni soddalashtiring. A) 6 B)  $a+6$  C)  $a-6$  D)  $1/(a-6)$

26.  $(x+y)^{10}$  ifoda yoyilmasining hadlari orasida  $C_{10}^a x^6 y^4$  ko'rinishdagi hadi mavjud bo'lib undagi  $a$  ning qiymatini toping. A) 6 B) 4 C) 5 D) 7

27.  $\begin{cases} 2x + ay = a + 2 \\ (a+1)x + 2ay = 2a + 4 \end{cases}$  a ning qanday qiymatida tenglamalar sistemasi cheksiz ko'p ildizga ega. A) 3 B) 4 C) 2 D) 1

28. Soddalashtiring.  $\frac{(m+n-p)^2 - (m-n-p)^2}{m^2-p^2}$  A)  $\frac{2n}{m-p}$  B)  $\frac{2(m-n)}{m+p}$  C)  $\frac{4n}{m+p}$  D)  $\frac{4(m+n)}{m-p}$

29.  $abc=4$  bo'lsa,  $\left(\frac{1}{a} - bc\right) \left(\frac{2}{b} - ac\right) \left(\frac{3}{c} - ab\right)$  ko'paytmaning qiymatini toping. A) 2/3 B) -3/2 C) 1 D) -5/3

30.  $3x^3+3x^2-ax-1=(x^2-bx+c)(dx+1)$  tenglik ayniyat bo'lsa,  $a+b$  ning qiymatini toping. A) 2, (3) B) 3 C) 1 D) 1, (6)

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

