

## 6-100 talik

1.  $22^{22} + 44^{44} + 66^{66} + 88^{88}$  ifodani 5 ga bo'lgandagi qoldiqni toping.

- A) 1  
B) 2  
C) 3  
D) 4

2. Argumentning qanday qiymatida

$$y = \frac{5x}{2|x+1|-5}$$

funksiyaning qiymati 2 ga teng bo'ladi?

- A) -6  
B) -1  
C)  $-1\frac{5}{9}$   
D)  $-1\frac{1}{2}$

3. Tengsizlikni yeching.

$$27\sqrt{-x-x^2} \geq 0$$

- A)  $(-\infty; 0]$   
B)  $[-3; 0]$   
C)  $[-9; 0]$   
D)  $[-1; 0]$

4.  $y = \log_2(x^2 - 4x + 20)$  funksiyaning eng kichik qiymatini toping.

- A) 2  
B) 3  
C) 4  
D) 16

5. 400 dan katta dastlabki 3 ta tub sonning yig'indisini toping.

- A) 1229  
B) 1207  
C) 1249  
D) 1271

6.  $(x+3)^{x^2-16} > 1$  tengsizlikni yeching.

- A)  $(-3; 4) \cup (4; \infty)$   
B)  $(4; \infty)$   
C)  $(-3; -2) \cup (4; \infty)$   
D)  $(-2; \infty)$

7.  $\overline{ab} + \overline{ba} + \overline{aa} + \overline{bb} = 286$ , bu yerda  $\overline{ab}, \overline{ba}, \overline{aa}, \overline{bb}$  - lar ikki xonali sonlar bo'lsa,  $\overline{ab}$  ning eng kichik qiymatini toping.

- A) 58  
B) 39  
C) 49  
D) 67

8.  $(8x-25)^{17} + (2x-5)^{34} = 0$  tenglama nechta butun yechimga ega?

- A) 0  
B) 2  
C) 3  
D) 1

9.  $1 - \sin 4\alpha + \operatorname{ctg}\left(\frac{3\pi}{4} - 2\alpha\right) \cdot \cos 4\alpha$  ifodani soddalashtiring.

- A)  $\operatorname{tg} 2\alpha$   
B)  $\sin^2 2\alpha$   
C) 1  
D) 0

10.  $1 - \sin \alpha + \operatorname{ctg}\left(\frac{3\pi}{4} - \frac{\alpha}{2}\right) \cdot \cos \alpha$  ifodani soddalashtiring.

- A)  $\operatorname{tg} \frac{\alpha}{2}$   
B) 0  
C) 1  
D)  $\sin^2 \frac{\alpha}{2}$

11.  $\int_{\frac{\pi}{2}}^{\pi} (\sin x + \cos x)^2 dx + \frac{\pi}{2}$  ni hisoblang.

- A)  $2\pi - 1$   
B)  $\pi$   
C) 1  
D)  $\frac{3\pi}{2} - 1$

12.  $(x+3)^{x^2-16} < 1$  tengsizlikning -3 dan katta eng kichik va eng katta butun yechimlari yig'indisini toping.

- A) 0  
B) 2  
C) -1  
D) 3

13.  $A(-2; 3), B(2; 3)$  va  $C(x; 3)$  bo'lib,  $\overline{AB} \perp \overline{BC}$  bo'lsa,  $x$  ni toping.

- A) 2  
B) 4  
C) 6  
D) 0

14.  $f(x; y) = 2x + 3y$  bo'lsa,  $f(y; x)$  ni toping.

- A)  $2x+3y$                       B)  $2y+3x$   
 C)  $2x-3y$                       D)  $2y-3x$
15. Bir nechta turist sayohatga chiqmoqchi. Har birlari 25 000 so'mdan berishsa, 140 000 so'm yetmaydi. Agar 30 000 so'mdan berilsa, 140 000 so'm ortib qoladi. Guruhda nechta sayohatchi bor?  
 A) 36                                B) 40  
 C) 60                                D) 56
16. Raqamlari juft va takrorlanmaydigan 3 xonali sonlar nechta?  
 A) 100 ta                          B) 64 ta  
 C) 125 ta                          D) 48 ta
17.  $ABCD$  rombning  $AB$  va  $AD$  tomonlarida  $M$  va  $N$  nuqtalar olinganki,  $CM$  va  $CN$  to'g'ri chiziqlar rombni 3 ta tengdosh shaklga ajratadi. Agar  $BD = 27$  bo'lsa,  $MN$  kesma uzunligini toping.  
 A) 9                                  B) 12  
 C) 18                                D) 15
18. Agar  $ctg \alpha = 8$  bo'lsa,  
 $\frac{1 + ctg\left(\frac{13\pi}{2} + \alpha\right)}{1 - \sin(2\pi + 2\alpha)}$  ni toping.  
 A)  $1\frac{9}{56}$                                 B) 1  
 C)  $\frac{56}{65}$                                 D)  $\frac{7}{8}$
19.  $ABCD$  trapetsiyada  $AD = 30$  va  $BC = 24$ . Agar  $AB = 6$ ,  $\angle A = 45^\circ$  bo'lsa,  $COD$  uchburchak yuzini toping. Bunda  $O$  – trapetsiyaning diagonallari kesishgan nuqta.  
 A)  $4,5\sqrt{3}$                         B)  $21,6\sqrt{2}$
- C)  $10,8\sqrt{2}$                       D)  $9,6\sqrt{3}$
20. Sinfda 27 ta bolani 3 tadan necha xil usulda guruhlasa bo'ladi?  
 A) 2925                              B) 3000  
 C) 2500                              D) 2785
21.  $tg 200^\circ - 4 \cos 250^\circ$  ni hisoblang.  
 A) 1                                  B)  $\sqrt{2}$   
 C)  $\sqrt{3}$                               D) 2
22.  $(x^2 - 0,01)(2x - 5) = (x - 2,5)(x + 0,1)^2$  tenglamaning ildizlari yig'indisini toping.  
 A) 2,5                                B) 2,4  
 C) 2,7                                D) 2,8
23.  $|x^2 - 6|x|| = a$  tenglama  $a$  ning qanday qiymat(lar)ida 1 ta musbat va 1 ta manfiy yechimga ega bo'ladi?  
 A) (0; 9)                            B) (9;  $\infty$ )  
 C) (6;  $\infty$ )                        D) (6; 9)
24.  $y = \sqrt{-x^2 + 4x + 18} + 4$  egri chiziqdan (0; 4) nuqtagacha bo'lgan eng qisqa masofani toping.  
 A)  $\sqrt{22} - 2$                         B)  $\sqrt{5} - 1$   
 C) 5                                  D) 3
25.  $a = \sqrt{24} + \sqrt{26}$  va  $b = 10$  sonlarini taqqoslang.  
 A)  $a < b$                             B)  $a = b$   
 C)  $a > b$                             D)  $a + 1 = b$
26.  $|x^2 - 6|x|| = a$  tenglama  $a$  ning qanday qiymat(lar)ida 3 ta musbat va 3 ta manfiy yechimga ega bo'ladi?  
 A) (0; 9)                              B) (9;  $\infty$ )  
 C) (6;  $\infty$ )                        D) (6; 9)



B)  $k_1 \neq k_1, b_1 = b_2$

C)  $k_1 = k_1, b_1 \neq b_2$

D)  $k_1 \neq k_1, b_1 \neq b_2$

40. Oddiy yilning sakkizinchi sanasida tug'ilish ehtimolini toping.

A)  $\frac{1}{30}$

B)  $\frac{1}{12}$

C)  $\frac{1}{11}$

D)  $\frac{12}{365}$

41.  $\sqrt{2a^5} \cdot \sqrt{18a^2}$  ni soddalashtiring.

A)  $6a$

B)  $6a^7$

C)  $6a^3\sqrt{a}$

D)  $6a^2\sqrt{a}$

42. Hisoblang:  $\sqrt{25^{\frac{1}{\log_5 5}} + 36^{\frac{1}{\log_6 6}}}$ .

A) 6

B) 8

C) 9

D) 10

43. Agar  $a+b+c=11$  va  $ab-ac-bc=9$  bo'lsa,  $a^2+b^2+c^2$  ni toping.

A) 103

B) 112

C) 139

D) 130

44.  $(4x^2 - 9)(x - 0,3) = (10x - 3)(x - 1,5)^2$  tenglamaning ildizlari yig'indisini toping.

A) 5

B) 3,8

C) 2,9

D) 4,1

45. Soddalashtiring:  $\frac{1}{\sin 200^\circ} + \frac{\text{tg } 60^\circ}{3 \cos 20^\circ}$ .

A)  $-\frac{\sqrt{3}}{4}$

B)  $\frac{\sqrt{3}}{4}$

C)  $-\frac{4}{\sqrt{3}}$

D)  $-\frac{1}{\sqrt{3}}$

46.  $y = \sin 3x \cos 3x$  funksiyaning eng kichik qiymatini toping.

A)  $-\frac{1}{\sqrt{2}}$

B) -1

C)  $-\frac{1}{2}$

D)  $-3\sqrt{2}$

47.  $\int (2 - x^2 f(x)) dx = x^2 - 2x + C$  bo'lsa,  $f(x)$  ni toping.

A)  $f(x) = x - 2$

B)  $f(x) = \frac{4 - 2x}{x^2}$

C)  $f(x) = 2x - 1$

D)  $f(x) = \frac{x - 2}{x^2}$

48.  $|x^2 + 17x| \leq 2x$  tengsizlikni nechta butun son qanoatlantiradi?

A) 1

B) 3

C) 4

D) 2

49.  $\ln 4x \geq 2$  tengsizlikni yeching.

A)  $[0,5; \infty)$

B)  $[2; \infty)$

C)  $[e^2; \infty)$

D)  $\left[\frac{e^2}{4}; \infty\right)$

50.  $a = \sqrt{52} + \sqrt{46}$  va  $b = 14$  sonlarni taqqoslang.

A)  $a > b$

B)  $a = b$

C)  $a + 1 = b$

D)  $a < b$

51.  $\int_5^8 \frac{6}{\sqrt{3x+1}} dx$  integralni hisoblang.

A) 5

B) 4

C) 16

D) 36

52. Teng yonli trapetsiyaning diagonali 8 ga teng. U katta asos bilan  $45^\circ$  burchak tashkil etsa, trapetsiyaning yuzini toping.

- A) 16  
C) 32
- B)  $16\sqrt{2}$   
D)  $12\sqrt{2}$
53.  $(x+1)^{x^2-9} \leq 1$  tengsizlikni qanoatlantiruvchi eng katta butun sonni toping.  
A) 4  
C) 2  
B) 3  
D) 5
54. Toq raqamlardan foydalanib raqamlari takrorlanmaydigan nechta uch xonali son tuzish mumkin?  
A) 60  
C) 125  
B) 80  
D) 64
55. Agar hamma pul bersa 900 so'm yig'iladi. Agar 3 kishi bermasa qolgan kishilar 50 so'mdan qo'shishlariga to'g'ri keladi. Jami necha kishi bo'lgan?  
A) 6  
C) 10  
B) 9  
D) 12
56.  $0,5 \cdot \operatorname{tg} 20^\circ + 2 \sin 20^\circ$  ni hisoblang.  
A)  $\frac{\sqrt{3}}{2}$   
C)  $\sqrt{3}$   
B) 1  
D) 2
57.  $\int_{-1}^3 \frac{1}{\sqrt{2x+3}} dx$  integralni hisoblang.  
A) 2  
C) 4  
B) 3  
D) 5
58.  $x^2 + \frac{5}{x} = 6$  bo'lsa,  $x^2 + x$  ni toping.  
A) 1  
C) 6  
B) 5  
D) 30
59. Agar  $x^2 - 6x + 3 = 0$  bo'lsa,  $x^2 + \frac{9}{x^2}$  ni toping.  
A) 30  
C) 42  
B) 36  
D) 45
60.  $P(x) = (1 + 2x - x^2)^4$  ko'phadning  $x^7$  qatnashgan hadining koeffitsiyentini toping.  
A) -8  
C) -26  
B) 20  
D) 8
61. Ushbu berilgan  $A(3; 9)$  nuqtadan  $(x-3)^2 + (y+15)^2 = 81$  egri chiziqqacha bo'lgan eng qisqa masofani toping.  
A) 26  
C) 17  
B) 15  
D) 18
62.  $\log_a b = \frac{2}{3}$  bo'lsa,  $\log_{\sqrt[3]{a^2 \cdot 3b}} \left( \frac{a \cdot \sqrt[3]{a}}{b \cdot \sqrt[3]{b}} \right)$  ni toping.  
A) 0,5  
C) 2  
B) 1  
D) 3
63. Agar  $f(x) = 5 \cos x + 6x$  bo'lsa,  $f'(x) \geq f'\left(\frac{\pi}{2}\right)$  tengsizlikni yeching.  
A)  $x \in \mathbb{R}$   
B)  $x = \frac{\pi}{2} + 2\pi k, k \in \mathbb{Z}$   
C)  $x = 2\pi k, k \in \mathbb{Z}$   
D)  $x = \frac{\pi}{4} + \pi k, k \in \mathbb{Z}$
64.  $a = 3 + \sqrt{8}$  va  $b = \sqrt{7} + \sqrt{10}$  sonlarni taqqoslang.  
A)  $a < b$   
C)  $a = b$   
B)  $a > b$   
D)  $a + 1 = b$

65. Trapetsiyaning asoslari 5 va 30 ga, yon tomonlari esa 15 va 20 ga teng bo'lsa, uning yuzini toping.

- A) 240                      B) 180  
C) 150                      D) 210

66.  $a = \sqrt{34} + \sqrt{38}$  va  $b = 12$  sonlarni taqqoslang.

- A)  $a < b$                       B)  $a > b$   
C)  $a = b$                       D)  $a = b + 1$

67.  $|\vec{a}| = 1, |\vec{b}| = 2, |\vec{c}| = 3, \vec{a} \perp \vec{b}, \vec{b} \perp \vec{c}, \vec{a} \wedge \vec{c} = 60^\circ$  bo'lsa,  $|\vec{a} + \vec{b} - \vec{c}|$  ni toping.

- A) 4                              B)  $\sqrt{11}$   
C)  $\sqrt{15}$                       D)  $2\sqrt{3}$

68. Odamning oddiy yildagi oyning 11-sanasida tug'ilish ehtimolini toping.

- A)  $\frac{1}{3}$                               B)  $\frac{1}{30}$   
C)  $\frac{11}{12}$                               D)  $\frac{12}{365}$

69.  $\arccos(\sin 3)$  ni hisoblang.

- A)  $\frac{\pi}{2} - 3$                       B)  $3 - \frac{\pi}{2}$   
C)  $\pi - 3$                       D)  $\frac{3\pi}{2} - 3$

70.  $\angle A = 120^\circ$  bo'lgan teng yonli ABC uchburchakda AC va AB tomonlari o'rtasidan hamda B, C uchlaridan o'tuvchi aylananing radiusi  $\sqrt[4]{3}$  bo'lsa, uchburchakning yuzini toping.

- A) 1                              B) 2  
C) 3                              D) 6

71.  $\angle A = 120^\circ$  bo'lgan teng yonli ABC uchburchakda AC va AB tomonlari

o'rtasidan hamda B, C uchlaridan o'tuvchi aylananing radiusi  $\sqrt{21}$  bo'lsa, uchburchakning yuzini toping.

- A) 3                              B)  $3\sqrt{7}$   
C)  $7\sqrt{3}$                       D) 21

72.  $(2^2 + 4^2 + 6^2 + 8^2 + 10^2) - (1^2 + 3^2 + 5^2 + 7^2 + 9^2) + 5$  ni hisoblang.

- A) 50                              B) 55  
C) 60                              D) 65

73.  $\int_0^8 (4\sqrt[3]{x} + 2x) dx$  integralni hisoblang.

- A) 48                              B) 64  
C) 112                              D) 120

74. Muntazam uchburchakli piramidaning asosining tomoni 4 ga, asos tekisligi va yon yoqlar orasidagi burchak  $45^\circ$  ga teng. Piramidaning hajmini toping.

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

75. Bank qo'yilgan pulga yiligi 10% pul beradi. 2 yildan keyin qo'yilgan pul necha foizga oshadi?

- A) 21                              B) 20  
C) 18                              D) 24

76. Ifodani soddalashtiring.

$$\frac{\operatorname{tg} \alpha + \operatorname{ctg} \frac{3\beta}{2}}{\operatorname{tg} \frac{3\beta}{2} + \operatorname{ctg} \alpha} : \frac{\operatorname{tg} \alpha}{\operatorname{tg} \frac{3\beta}{2}}$$

- A) 1                              B)  $\operatorname{tg} \alpha \cdot \operatorname{ctg} \frac{3\beta}{2}$

- C)  $\operatorname{tg}^2 \alpha \cdot \operatorname{ctg}^2 \frac{3\beta}{2}$                       D) 2





89. 
$$\begin{cases} \sqrt{x} + \sqrt{y} = 5, \\ x + y + 4\sqrt{xy} = 27 \end{cases}$$
 bo'lsa,  $x - y$  ni

toping.

A)  $5\sqrt{21}$  B)  $\sqrt{105}$

C)  $5\sqrt{23}$  D)  $\sqrt{115}$

90. Hisoblang:  $|5 - \sqrt{26}| - |5 + \sqrt{26}|$ .

A)  $-10$  B)  $2\sqrt{26}$

C)  $-2\sqrt{26}$  D)  $10$

91. Ushbu  $x^2 \cdot 9^{\sqrt{x}} \leq 3^{2(\sqrt{x}+1)}$  tengsizlikni qanoatlantiruvchi butun sonlar nechta?

A) 4 ta B) 3 ta

C) 9 ta D) 10 ta

92. Geometrik progressiyada  $b_1 = 6$ ,

$S_n = \frac{242}{27}$ ,  $q = \frac{1}{3}$  bo'lsa,  $b_n$  ni toping.

A)  $\frac{2}{9}$  B)  $\frac{2}{27}$

C)  $\frac{5}{18}$  D)  $\frac{3}{8}$

93. Radiuslari 1,5; 2; 10,5 bo'lgan aylanalar tashqi ravishda urinadilar.

Uchala aylanaga urinuvchi aylanachaning radiusini toping.

A) 1,5 B) 2

C) 3 D) 4

94. 1, 2, 2, 3, 3, 3, 4, 4, 4, 4, 5, 5, 5, 5, 5, ... ketma – ketlikdagi 1000 – sonni toping.

A) 43 B) 45

C) 44 D) 46

95. 2018 burchakli to'g'ri prizmaning nechta qirrasini bor?

A) 6054

B) 18162

C) 3027

D) 4036

96. 
$$\begin{vmatrix} 2 & -3 & 5 \\ 1 & 12 & 0 \\ 5 & 8 & -2 \end{vmatrix}$$
 determinantni

hisoblang.

A)  $-314$  B) 108

C)  $-240$  D) 180

97. Kesik konusning nechta simmetriya kesimi bor?

A) 2 ta B) 1 ta

C) cheksiz ko'p D) 0

98. 14 ta futbolchidan 11 tadan qilib necha xil jamoa tuzish mumkin?

A) 2184 B) 364

C) 1092 D) 546

99.  $\log_2(\arctg x) > 3$  tengsizlikni yeching.

A)  $x < \operatorname{tg} 8 + \pi k$  B)  $x \in \emptyset$

C)  $x > \operatorname{tg} 8 + \pi k$  D)  $x \in R$

100.  $\int (x^2 + 2)f(x)dx = 2x^3 - 5x^2 - 4x + C$ ,

$C \in R$  bo'lsa,  $f(0)$  ni toping.

A) 0 B) 2

C) 3 D) 4

**Inson xatodan holi emas. Bu 100 talik testlarda kamchiliklar bo'lsa, bizning inson ekanligimizdan deb biling!**

**Telegram kanal: @super\_matematika**

[https://t.me/super\\_matematika](https://t.me/super_matematika)



**JAVOBLAR**

<i>N</i>	0	1	2	3	4	5	6	7	8	9
0		<i>B</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>A</i>	<i>C</i>	<i>C</i>	<i>D</i>	<i>D</i>
1	<i>B</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>	<i>D</i>	<i>D</i>	<i>C</i>	<i>A</i>	<i>B</i>
2	<i>A</i>	<i>A</i>	<i>C</i>	<i>B</i>	<i>A</i>	<i>A</i>	<i>A</i>	<i>C</i>	<i>D</i>	<i>C</i>
3	<i>A</i>	<i>C</i>	<i>B</i>	<i>C</i>	<i>B</i>	<i>B</i>	<i>C</i>	<i>A</i>	<i>B</i>	<i>C</i>
4	<i>D</i>	<i>C</i>	<i>D</i>	<i>A</i>	<i>D</i>	<i>C</i>	<i>C</i>	<i>B</i>	<i>A</i>	<i>D</i>
5	<i>D</i>	<i>B</i>	<i>C</i>	<i>B</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>A</i>	<i>B</i>	<i>A</i>
6	<i>A</i>	<i>C</i>	<i>A</i>	<i>A</i>	<i>B</i>	<i>D</i>	<i>A</i>	<i>B</i>	<i>D</i>	<i>B</i>
7	<i>A</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>B</i>	<i>A</i>	<i>A</i>	<i>D</i>	<i>B</i>	<i>B</i>
8	<i>C</i>	<i>A</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>B</i>	<i>D</i>	<i>A</i>
9	<i>A</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>A</i>	<i>C</i>	<i>B</i>	<i>B</i>
10	<i>B</i>									

SUPER MATEMATIKA