1. Ko'paytuvchilarga ajrating: $\sqrt{2x}-\sqrt{3y}+\sqrt{2y}-\sqrt{3x}$;

* $(\sqrt{2}-\sqrt{3})(\sqrt{x}+\sqrt{y})$;

$(\sqrt{2}+\sqrt{3})(\sqrt{x}+\sqrt{y})$;

$(\sqrt{2}-\sqrt{3})(\sqrt{x}-\sqrt{y})$;

$(\sqrt{2}+\sqrt{3})(\sqrt{x}-\sqrt{y})$;

2. Ko'paytuvchilarga ajrating: $\sqrt[3]{4x^2}+\sqrt[4]{2}\cdot\sqrt[3]{x^2}-\sqrt[4]{y^3}\cdot\sqrt[3]{4}-\sqrt[4]{2y^3}$;

* $(\sqrt[3]{2}+\sqrt[3]{4})(\sqrt[3]{x^2}-\sqrt[4]{y^3})$;

$(\sqrt[3]{2}-\sqrt[3]{4})(\sqrt[3]{x^2}-\sqrt[4]{y^3})$;

$(\sqrt[3]{2}+\sqrt[3]{4})(\sqrt[3]{x^2}+\sqrt[4]{y^3})$;

$(\sqrt[3]{2}-\sqrt[3]{4})(\sqrt[3]{x^2}+\sqrt[4]{y^3})$;

3. Ko'paytuvchilarga ajrating: $\sqrt[3]{a^4}+\sqrt[3]{ab^3}-\sqrt[3]{a^3b}-\sqrt[3]{b^4}$;

* $(\sqrt[3]{a}-\sqrt[3]{b})(b+a)$;

$(\sqrt[3]{a}-\sqrt[3]{b})(b-a)$;

$(\sqrt[3]{a}+\sqrt[3]{b})(b+a)$;

$(\sqrt[3]{a}+\sqrt[3]{b})(b-a)$;

4. Ko'paytuvchilarga ajrating: $b\sqrt{a}-ab+\sqrt{ab}-ab\sqrt{b}$;

* $\sqrt{ab}(\sqrt{b}+1)(1-\sqrt{ab})$;

$\sqrt{ab}(\sqrt{b}-1)(1-\sqrt{ab})$;

$\sqrt{ab}(\sqrt{b}+1)(1+\sqrt{ab})$;

$\sqrt{ab}(\sqrt{b}-1)(1+\sqrt{ab})$;

5. Ifodani soddalashtiring: $\frac{\sqrt{ab}\cdot\sqrt[4]{a}}{(a+b)\cdot\sqrt[4]{\frac{b^2}{a}}}-\frac{a^2+b^2}{a^2-b^2}$;

* $\frac{b}{b-a}$;

$\frac{b\sqrt{a}-b}{b^2-a^2}$;

$\frac{a}{b-a}$;

$\frac{a\sqrt{a}-b^2}{b^2-a^2}$;

6. Ifodani soddalashtiring: $\frac{(\sqrt[4]{m}+\sqrt[4]{n})^2+(\sqrt[4]{m}-\sqrt[4]{n})^2}{2(m-n)}:\frac{1}{\sqrt{m^3}-\sqrt{n^3}}-3\sqrt{mn}$;

* $(\sqrt{n}-\sqrt{m})^2$;

$m+n$;

$(\sqrt{n}+\sqrt{m})^2$;

$m-n$;

7. Ifodani soddalashtiring: $\frac{a^{3/2}-b^{3/2}}{a^{1/2}+b^{1/2}}\cdot\frac{a-b}{a+a^{1/2}b^{1/2}+b}+2a^{1/2}b^{1/2}$;

* $a+b$;

$(\sqrt{a}-\sqrt{b})^2$;

$(\sqrt{b}+\sqrt{a})^2$;

$a-b$;

8. Ifodani soddalashtiring: $\left(\frac{q^{1/2}}{p-p^{1/2}q^{1/2}}+\frac{p^{1/2}}{q-p^{1/2}q^{1/2}}\right)\cdot\frac{pq^{1/2}+p^{1/2}q}{p-q}$;

* $\frac{\sqrt{p}+\sqrt{q}}{\sqrt{q}-\sqrt{p}}$;

1;
$\sqrt{p}+\sqrt{q}$;
$\sqrt{p}-\sqrt{q}$;
9. Kasr mahrajini irratsionallikdan qutqaring: $\frac{1}{\sqrt{2}-\sqrt{5}+\sqrt{3}}$;
* $\frac{2\sqrt{3}+3\sqrt{2}+\sqrt{30}}{12}$;
$\frac{3\sqrt{3}+2\sqrt{2}+2\sqrt{5}}{12}$;
$\frac{\sqrt{3}+\sqrt{2}+\sqrt{30}}{12}$;
$\frac{\sqrt{3}+4\sqrt{2}+2\sqrt{5}}{12}$;
10. Kasr mahrajini irratsionallikdan qutqaring: $\frac{1}{\sqrt{3}+2\sqrt{2}+\sqrt{5}}$;
* $\frac{3\sqrt{5}+5\sqrt{3}-2\sqrt{30}}{30}$;
$\frac{2\sqrt{5}+4\sqrt{3}-\sqrt{30}}{30}$;
$\frac{4\sqrt{5}+4\sqrt{3}+\sqrt{30}}{30}$;
$\frac{\sqrt{5}+\sqrt{3}-\sqrt{30}}{30}$;
11. x va 36 sonlarining EKUKi 180 ga, EKUBi 6 ga teng. x ni toping.
* 30
60
90
42
12. 5^8+5^{10} yig'indining natural bo'luvchilari sonini toping
* 36
34
32
30
13. 17^{2015} ning ohirgi raqmini toping
* 3
1
9
7
14. $41\cdot 42\cdot 43\cdot \ldots \cdot 73\cdot 74\cdot 75$ ko'patma nechta nol bilan tugaydi?
* 9
10
11
12
15. $2013^{2014}+2014^{2015}-2015^{2016}$ ifoda qiymatining ohirgi raqmini toping
* 8
6
4
2
16. Ko'paytuvchilarga ajrating: $1-m^2-2mn-n^2$;
* $(1+m+n)(1-m-n)$;
$(1-m+n)(1+m-n)$;
$(1+m-n)(1-m+n)$;
$(1-n)(1-m-n)$;

17. Ko'paytuvchilarga ajrating: $x^2 - 2xc + c^2 - d^2$;
* $(x + d - c)(x - c - d)$;
$(x - d - c)(x + c - d)$;
$(x + d + c)(x - c - d)$;
$(x - c)(x - c + d)$;
18. Ko'paytuvchilarga ajrating: $a^2 + 2a - b^2 + 1$;
* $(a + b + 1)(a - b + 1)$;
$(a - b + 1)(a - b - 1)$;
$(a - b + 1)(a - b + 1)$;
$(a + 1)(a + b + 1)$;
19. Ko'paytuvchilarga ajrating: $x^2 + 2xy - m^2 + y^2$;
* $(y + m + x)(y - m + x)$;
$(y - m + x)(y - m - x)$;
$(y - m + x)(y - m + x)$;
$(y + m + x)(y - m - x)$;
20. Ko'paytuvchilarga ajrating: $(x + y + 3)^3 - (x + 2)^3 - (y + 1)^3$;
* $3(x + 2)(y + 1)(x + y + 3)$;
$-3(x + 2)(y + 1)(x + y + 3)$;
$3(x + 2)(y + 1)(x + y - 3)$;
$-3(x + 2)(y + 1)(x + y - 3)$;
21. $\sqrt{12 - 8\sqrt{2}} + \sqrt{17 - 12\sqrt{2}}$ =?;
* $4\sqrt{2} + 1$;
$2\sqrt{2} + 3$;
$\sqrt{2} - 1$;
$2\sqrt{2} - 3$;
22. $\sqrt{37 + 20\sqrt{3}} - \sqrt{43 - 24\sqrt{3}}$ =?;
* $9 - \sqrt{3}$;
$7 + 2\sqrt{3}$;
$6 - 3\sqrt{3}$;
$5 + 4\sqrt{3}$;
23. $\sqrt{49 - 12\sqrt{5}} - \sqrt{29 - 12\sqrt{5}}$ =?;
* $\sqrt{5} + 1$;
$2\sqrt{5} - 2$;
$\sqrt{5} + 2$;
$-\sqrt{5} + 3$;
24. $\sqrt{11 - 4\sqrt{6}} - \sqrt{21 - 6\sqrt{6}}$ =?;
* $-\sqrt{2}$;
$\sqrt{2} + 1$;
$\sqrt{3}$;
$-\sqrt{3} + 1$;
25. Soddalashtiring: $(b^{-1} + a^{-1}) \cdot (a + b)^{-1}$;
* $\frac{1}{ab}$;
$\frac{a+b}{ab}$;
$\frac{1}{a+b}$;

1;

26. Soddalashtiring: $(x^{-2}-y^{-2}):(x-y)$;

* $-\frac{x+y}{x^2y^2}$;

$\frac{x+y}{x^2y^2}$;

$-\frac{1}{x^2y^2}$;

$\frac{1}{x^2y^2}$;

27. Soddalashtiring: $(b^{-1}+a^{-1})\cdot\left(\frac{1}{a^{-1}}+\frac{1}{b^{-1}}\right)^{-1}$;

* $\frac{1}{ab}$;

$\frac{1}{a+b}$;

$\frac{a+b}{ab}$;

$\frac{ab}{a+b}$;

28. Soddalashtiring: $\left((s^{-1}+t^{-1}):\left(\frac{1}{s^{-2}}-\frac{1}{t^{-2}}\right)\right)^{-1}$;

* $st(s-t)$;

$st(s+t)$;

$s-t$;

$s+t$;

29. Ifodani soddalashtiring; $\left(\frac{m}{n^2-mn}+\frac{n}{m^2-mn}\right)\cdot\frac{mn}{n+m}$;

* -1;

1;

$\frac{2}{m+n}$;

$\frac{2}{m-n}$;

30. Ifodani soddalashtiring; $\frac{r^2-25}{r+3}\cdot\frac{1}{r^2+5r}-\frac{r+5}{r^2-3r}$;

* $\frac{16}{9-r^2}$;

$\frac{r}{9-r^2}$;

$\frac{2r-1}{9-r^2}$;

$\frac{2r+1}{9-r^2}$;

31. Ifodani soddalashtiring; $\left(\frac{st}{s^2-t^2}+\frac{t}{2t-2s}\right)\cdot\frac{s+t}{2t}$;

* $\frac{1}{4}$;

$\frac{s+t}{4}$;

$\frac{s-t}{4}$;

$\frac{s+t}{4t}$;

32. Ifodani soddalashtiring; $\frac{3a+b}{a^2b-ab^2}+\frac{b-a}{ab}:\frac{a^2-b^2}{3a-b}$;

* $\frac{8}{a^2-b^2}$;

$\frac{8}{b^2-a^2}$;

$\frac{8ab}{a^2-b^2}$;

$\frac{8ab}{b^2-a^2}$;

33. a ning qanday qiymatida tenglama ildizga ega bo'lmaydi? $a^2x - a = 4x - 2$;
* –2;
2;
± 2;
a ning bunday qiymati mavjud emas;
34. a ning qanday qiymatida tenglamaning ildizi musbat bo'ladi? $a^2x - a = 4x - 2$;
* $(-2, 2) \cup (2, +\infty)$;
$(-2, +\infty)$;
$(-\infty, -2)$;
$(-\infty, 2)$;
35. a ning qanday qiymatida tenglama bitta ildizga ega bo'ladi? $a^2(x - 2) = x + a - 3$;
* $a \neq \pm 1$;
$a \neq 1$;
$a \neq -1$;
$a \in R$;
36. a ning qanday qiymatida tenglama cheksiz kop ildizga ega bo'ladi? $a^2(x - 2) = x + a - 3$;
* 1;
–1;
± 1;
a ning bunday qiymati mavjud emas;
37. a ning qanday qiymatida tenglama ildizga ega bo'lmaydi? $a^2(x - 2) = x + a - 3$;
* –1;
1;
± 1;
a ning bunday qiymati mavjud emas;
38. a ning qanday qiymatida tenglama bitta ildizga ega bo'ladi? $(3a^2 - a - 2)x = 6a + 4$;
* $a \neq -\frac{2}{3}$ va $a \neq 1$;
$a \neq -\frac{1}{3}$ va $a \neq 2$;
$a \neq -\frac{1}{2}$ va $a \neq 0$;
$a \in R$;
39. a ning qanday qiymatida tenglama cheksiz ko'p ildizga ega bo'ladi? $(3a^2 - a - 2)x = 6a + 4$;
* $-\frac{2}{3}$;
1;
1 va $-\frac{2}{3}$;
a ning bunday qiymati mavjud emas;
40. a ning qanday qiymatida tenglama ildizga ega bo'lmaydi? $(3a^2 - a - 2)x = 6a + 4$;
* 1;
$-\frac{2}{3}$;
1 va $-\frac{2}{3}$;
a ning bunday qiymati mavjud emas;
41. a ning qanday qiymatida tenglama manfiy ildizga ega bo'ladi? $(3a^2 - a - 2)x = 6a + 4$;
* $\left(-\infty, -\frac{2}{3}\right) \cup \left(-\frac{2}{3}; 1\right)$;
$(-\infty, -1)$;
$\left(-\frac{2}{3}; 1\right)$;
$(1, +\infty)$;

42. a ning qanday qiymatida tenglama bitta ildizga ega bo'ladi?; $a^2x - 5a = 9x - 15$;
* $a \neq \pm 3$;
$a \neq 3$;
$a \neq -3$;
$a \in R$;
43. a ning qanday qiymatida tenglama cheksiz ko'p ildizga ega bo'ladi?; $a^2x - 5a = 9x - 15$;
* 3;
–3;
± 3;
a ning bunday qiymati mavjud emas;
44. a ning qanday qiymatida tenglama bitta ildizga ega bo'ladi?; $(2a + 3)x^2 - 2ax + a - 2 = 0$;
* $-2;\ -1{,}5;\ \ 3$;
$-2;\ 3$;
-2;
3;
45. a ning qanday qiymatida tenglama ikkita ildizga ega bo'ladi?; $(2a + 3)x^2 - 2ax + a - 2 = 0$;
* $(-2;\ -1{,}5) \cup (-1{,}5;\ \ 3)$;
$(-2;\ 3)$;
$(-\infty;\ -2) \cup (3;\ +\infty)$;
$(3; +\infty)$;
46. a ning qanday qiymatida tenglama ildizga ega bo'lmaydi?; $(2a + 3)x^2 - 2ax + a - 2 = 0$;
* $(-\infty;\ -2) \cup (3;\ +\infty)$;
$(-2;\ -1{,}5) \cup (-1{,}5;\ \ 3)$;
$(-2;\ 3)$;
$(3; +\infty)$;
47. a ning qanday qiymatida tenglama $x = 1$ ildizga ega bo'ladi?; $(2a + 3)x^2 - 2ax + a - 2 = 0$;
* –1;
0;
1;
2;
48. a ning qanday qiymatida tenglama bitta ildizga ega bo'ladi?; $(a - 3)x^2 - ax + a = 0$;
* 0; 3; 4;
0; 4;
0;
4;
49. a ning qanday qiymatida tenglama ildizlari kvadratining yig'indisi eng kichik bo'ladi; $x^2 - ax + 3a - 1 = 0$
* 3;
2;
1;
0;
50. Tenglama bitta ildizga ega bo'ladigan a ning qiymatlari yig'indisini toping; $\frac{2x+a}{x+2} + \frac{4x-a}{4-x} = 2$;
* 30;
20;
10;
0;
51. Tenglama bitta ildizga ega bo'ladigan a ning qiymatlari yig'indisini toping; $\frac{x-a}{x-1} - \frac{3x+a}{x+3} = 2$;
* 15;

10;
5;
0;
52. Tenglama bitta ildizga ega bo'ladigan a ning qiymatlari yig'indisini toping; $\frac{2x-a}{x+2}+\frac{4x+a}{4-x}=2$;
* –30;
–20;
–10;
0;
53. Tenglama bitta ildizga ega bo'ladigan a ning qiymatlari yig'indisini toping; $\frac{x+a}{x-1}+\frac{a-3x}{x+3}=2$;
* –15;
–10;
–5;
0;
54. Tenglama bitta ildizga ega bo'ladigan a ning qiymatlari yig'indisini toping; $\frac{4x+a}{x+4}+\frac{2x-a}{2-x}=2$;
* 30;
20;
10;
0;
55. $\begin{cases}2x^2-y^2=32\\2x-y=8\end{cases}$ sistemada $x=$?
* 4 yoki 12;
6 yoki 10;
12;
10;
56. $\begin{cases}x^2-y^2=24\\2y-x=-7\end{cases}$ sistemada $y=$?
* -1 yoki $-8\frac{1}{3}$;
-3 yoki $-5\frac{1}{3}$;
–1;
–3;
57. $\begin{cases}x^2+xy-y^2=11\\x-2y=1\end{cases}$ sistemada $x=$?
* 3 yoki –3;
5 yoki –5;
3;
5;
58. $\begin{cases}xy+y^2+x-3y=15\\x+y=5\end{cases}$ sistemada $x=$?
* –5;
–5 yoki 10;
–4 yoki 8;
–4;
59. $\begin{cases}x^2+xy-x-y=2\\x-y=2\end{cases}$ sistemada $x=$?
* 2 yoki 0;
–2 yoki 4;
2;

0;

60. Sistema nechta yechimga ega: $\begin{cases} x^2y^2 + xy = 2 \\ 2x + y = 3 \end{cases}$

* 4;

3;

2;

1;

61. Agar $x < 0$ bo'lsa $\frac{|x-1|+|x|+x}{3x^2-3x}$ fodani soddalashtiring;

* $-\frac{1}{3x}$;

$\frac{x+1}{3x^2-3x}$;

$\frac{3x-1}{3x^2-3x}$;

$\frac{1}{3x}$;

62. Agar $x > 1$ bo'lsa $\frac{|x-1|+|x|+x}{3x^2-3x}$ fodani soddalashtiring

* $\frac{3x-1}{3x^2-3x}$;

$-\frac{1}{3x}$;

$\frac{x+1}{3x^2-3x}$;

$\frac{1}{3x}$;

63. Agar $0 < x < 1$ bo'lsa $\frac{|x-1|+|x|+x}{3x^2-3x}$ fodani soddalashtiring

* $\frac{x+1}{3x^2-3x}$;

$\frac{3x-1}{3x^2-3x}$;

$-\frac{1}{3x}$;

$\frac{1}{3x}$;

64. Agar $x < -2$ bo'lsa $\sqrt{x^2+4x+4} - \sqrt{x^2+9-6x}$ ifodani soddalashtiring

* –5;

$1 - 2x$;

5;

$2x - 1$;

65. Agar $x > 3$ bo'lsa $\sqrt{x^2+4x+4} - \sqrt{x^2+9-6x}$ ifodani soddalashtiring

* 5;

–5;

$1 - 2x$;

$2x - 1$;

66. Tengsizlikni yeching: $|2x - 1| \geq x$;

* $\left(-\infty; \frac{1}{3}\right] \cup [1; \infty)$;

$\left(-\infty; \frac{1}{3}\right]$;

$[1; \infty)$;

$\left[\frac{1}{3}; 1\right]$;

67. Tengsizlikni yeching: $|3x - 4| > x + 1$;

* $\left(-\infty; \frac{3}{4}\right) \cup (2{,}5; \infty)$;

$(2{,}5; \infty)$;

$\left(-\infty;\frac{3}{4}\right)$;
$\left(\frac{3}{4};2{,}5\right)$;
68. Tengsizlikni yeching: $|16-8x|<4x+2$;
* $\left(\frac{7}{6};2\right)$;
$\left(-\infty;\frac{7}{6}\right)\cup(2;\ \infty)$;
$\left(-\infty;\frac{7}{6}\right)$;
$(2;\ \infty)$;
69. Tengsizlikni yeching: $|2x-1|+|3x-6|<12$;
* $(-1;\ 3{,}8)$;
$[0{,}5;3{,}8)$;
$[2;3{,}8)$;
$[0{,}5;2)$;
70. Tengsizlikni yeching: $|3x-4|-|x+2|\geq 4$;
* $(-\infty;\ -0{,}5]\cup[5;\ \infty)$;
$(-\infty;\ -0{,}5]$;
$[5;\ \infty)$;
$[-2;\ -0{,}5]$;
71. Tenglama nechta ildizga ega? $\sqrt{x^4-3x-1}=x^2-1$;
* 1;
2;
∅;
3;
72. Tenglama nechta ildizga ega? $\sqrt{x^4+x-9}=1-x^2$;
* ∅;
2;
1;
3;
73. Tenglama ildizlarining o'rta arifmetigini toping; $\sqrt{x^4-3x-1}=1-x^2$;
* –0,5;
0,75;
2;
∅;
74. Tenglama ildizlarining o'rta arifmetigini toping; $\sqrt{x^4+x-9}=x^2-1$;
* –0,25;
–2,5;
2;
∅;
75. Tenglama ildizlarining o'rta arifmetigini toping; $\sqrt{x^4-5x^2-2{,}5x}=5-x^2$;
*–2;
0,25;
2,5;
∅;
76. Tenglama ildizlarining o'rta arifmetigini toping; $\sqrt{x^4-5x^2-2{,}5x}=x^2-5$;
*2,5;
–2;

0,25;
∅;
77. Tenglamani yeching: $\sqrt{x^4-3x^2-1{,}5x}=x^2-3$;
*2;
–1,5;
–1,5 va 2;
∅;
78. Tenglamani yeching: $\sqrt{x^4-3x^2-1{,}5x}=3-x^2$;
*–1,5;
2;
–1,5 va 2;
∅;
79. Tenglamani yeching: $(x^2-9)\left(\sqrt{3-2x}-x\right)=0$;
*–3 va 1;
$\pm$3 va 1;
$\pm$3;
3 va 1;
80. Tenglamani yeching: $(x^2-16)\left(\sqrt{4-3x}-x\right)=0$;
*–4 va 1;
$\pm$4 va 1;
$\pm$4;
4 va 1;
81. Tenglama ildizlari yig'indisini toping; $\sqrt{3x-1}+\sqrt{6x+2}=\sqrt{9x+1}$;
*$\frac{1}{3}$;
$-\frac{1}{3}$;
∅;
0;
82. Tenglama ildizlari yig'indisini toping; $\sqrt{6x-14}-\sqrt{5-x}=\sqrt{5x-9}$;
*5;
$7\frac{1}{3}$;
$2\frac{1}{3}$;
∅;
83. Tenglama ildizlari yig'indisini toping; $x^2-4x-6=\sqrt{2x^2-8x+12}$;
*4;
6;
–2;
∅;
84. Tenglama nechta ildizga ega; $\sqrt{x^2-3x+5}+\sqrt{x^2-3x+6}=3$;
*∅;
1;
2;
3;
85. Tenglama nechta ildizga ega; $\sqrt{x^2+x+7}+\sqrt{x^2+x+2}=\sqrt{3x^2+3x+19}$;
*2;
1;
3;

4;

86. Tengsizlik $[-10; 10]$ kesmada nechta butun yechimga ega; $\sqrt{3x^2+1} > x+1$;

*19;

20;

21;

18;

87. Tengsizlik $[-10; 10]$ kesmada nechta butun yechimga ega; $\sqrt{5x^2+4} \leq 7x+10$;

*12;

13;

14;

15;

88. Tengsizlik $[-10; 10]$ kesmada nechta butun yechimga ega; $\sqrt{x^2+x} < x+1$;

*11;

10;

12;

13;

89. Tengsizlikni yeching; $\sqrt{2x^2+7x} > 5-2x$;

*$(-\infty; -5) \cup (0{,}5; \infty)$;

$(-\infty; -5) \cup (2{,}5; \infty)$;

$(-\infty; -3{,}5) \cup (0{,}5; \infty)$;

$(-\infty; -3{,}5) \cup (2{,}5; \infty)$;

90. Tengsizlikni yeching; $\sqrt{x^2-11x-12} < \sqrt{x^2+11x+6}$;

*$[12; \infty)$;

$\left(-\frac{9}{11}; \infty\right)$;

$[12; \infty) \cup \{-1\}$;

$\left(-\frac{9}{11}; \infty\right) \cup \{-1\}$;

91. $\begin{cases} \sqrt{\frac{y-x}{2x}} - \sqrt{\frac{x}{x+y}} = \frac{1}{2} \\ 16\sqrt{\frac{x}{x+y}} - 7\sqrt{\frac{y-x}{2x}} = 1 \end{cases}$ bo'lsa, $x+y=?$;

*Aniqlab bo'lmaydi;

0;

1;

-1;

92. $\begin{cases} \sqrt{x-y} + \sqrt{x+3y} = 4 \\ 2x-y=4 \end{cases}$ bo'lsa, $x+y=?$;

*5 yoki 8;

5;

8;

Aniqlab bo'lmaydi;

93. $\begin{cases} \sqrt{2x+y} + \sqrt{6x-3y} = 2 \\ 6x+2y=10 \end{cases}$ bo'lsa, $x=?$

*1;

1 yoki $5\frac{49}{60}$;

$5\frac{49}{60}$;

Aniqlab bo'lmaydi;

94. $\begin{cases} \sqrt[3]{x}+\sqrt[3]{y}=5 \\ xy=216 \end{cases}$ bo'lsa, $x=?$
*8 yoki 27;
8;
27;
Aniqlab bo'lmaydi.
95. $\begin{cases} \sqrt[4]{x}-\sqrt[4]{y}=1 \\ \sqrt{xy}=4 \end{cases}$ bo'lsa, $x=?$
*16;
1 yoki 16;
1;
Aniqlab bo'lmaydi.
96. Tengsizlikni yeching; $\sqrt{x^2-9}+\sqrt{x+3}\geq\sqrt{x^2+6x+9}$;
*$[9{,}25;\ \infty)\cup\{-3\}$;
$[3;\ \infty)$;
$[9{,}25;\ \infty)$;
$[3;\ \infty)\cup\{-3\}$;
97. Tengsizlik $(0;10)$ intervalda nechta butun yechimga ega? $\frac{\sqrt{x^2-5x}-4x+26}{7-x}>2$;
*2;
4;
6;
8;
98. Tengsizlik $(0;10)$ intervalda nechta butun yechimga ega? $\frac{\sqrt{x^2+5x}-4x-6}{x-2}<-2$;
*7;
8;
9;
6;
99. Tengsizlik $(0;10)$ intervalda nechta butun yechimga ega? $\left(\sqrt{6x+5}-1\right)^5\geq(6x-4)^{5/2}$;
*9;
7;
5;
3;
100. Tengsizlik $(0;10)$ intervalda nechta butun yechimga ega? $\sqrt{\sqrt{x}+2}-\sqrt{\sqrt{x}-1}\geq 1$;
*4;
6;
8;
2;
101. Soat 4.00 bo'lganda soat va minut millari hosil qilgan burchak necha gradus?
*120^0;
135^0;
100^0;
150^0;
102. Soat 5.00 bo'lganda soat va minut millari hosil qilgan burchak necha gradus?
*150^0;
135^0;
100^0;

120^0;
103. Soat 4.30 bo’lganda soat va minut millari hosil qilgan burchak necha gradus?
*45^0;
35^0;
40^0;
30^0;
104. Soat 3.30 bo’lganda soat va minut millari hosil qilgan burchak necha gradus?
*75^0;
65^0;
60^0;
70^0;
105. Ikkita to’g’ri chiziq kesishishidan hosil bo’lgan burchaklardan uchtasining yig’indisi 210^0 ga teng. Burchaklardan kichigini toping.
*30^0;
35^0;
40^0;
45^0;
106. Hech bir uchtasi bir to’g’ri chiziqda yotmaydigan 4 ta nuqta berilgan. Shu nuqtalar orqali nechta turli to’g’ri chiziq o’tkazish mumkin.
*6;
7;
5;
4;
107. Hech bir uchtasi bir to’g’ri chiziqda yotmaydigan 5 ta nuqta berilgan. Shu nuqtalar orqali nechta turli to’g’ri chiziq o’tkazish mumkin.
*10;
9;
8;
7;
108. Burchakning bissektrisasi uning tomoni bilan 60^0 li burchak hosil qiladi. Berilgan burchakka qo’shni burchakni toping.
*60^0;
120^0;
150^0;
40^0;
109. $\angle AOB = 50^0$, $\angle BOC = 80^0$ bo’lsa, AOB va BOC burchaklarning bissektrisalari orasidagi burchakni toping.
*65^0 yoki 15^0;
75^0 yoki 25^0;
70^0 yoki 20^0;
60^0 yoki 30^0;
110. $\angle AOB = 40^0$, $\angle BOC = 70^0$ bo’lsa, AOB va BOC burchaklarning bissektrisalari orasidagi burchakni toping.
*55^0 yoki 15^0;
60^0 yoki 20^0;
65^0 yoki 25^0;
75^0 yoki 30^0;

111. AB nurda C nuqta, BA nurda D nuqta shunday olinganki, $AC = 0{,}7$ va $BD = 2{,}1$. Agar $AB = 1{,}5$ bo'lsa, CD ni toping.
*1,3;
1,5;
1,7;
1,9;
112. AB nurda C nuqta, BA nurda D nuqta shunday olinganki, $AC = 1{,}2$ va $BD = 3{,}2$. Agar $AB = 1{,}8$ bo'lsa, CD ni toping.
*2,6;
2,4;
2,2;
1,8;
113. To'g'ri chiziqqa unda yotmagan O nuqtadan OA o'g'ma va OB perpendikulyar o'tkazilgan, Ularning uzunliklari yig'indisi 13, ayirmasi esa 1 ga teng bo'lsa, O nuqtadan to'g'ri chiziqqacha masofani toping.
*6;
7;
8;
9;
114. Perimetri 28 ga teng bo'lgan teng yonli uchburchakning asosi yon tomonidan 4 ga ortiq. Shu uchburchakning yon tomonini toping.
*8;
9;
12;
11;
115. Perimetri 31 ga teng bo'lgan teng yonli uchburchakning asosi yon tomonidan 7 ga ortiq. Shu uchburchakning asosini toping.
*15;
8;
13;
11;
116. Perimetri 36 ga teng bo'lgan to'rtburchakning diagonali uni perimetrlari 24 va 30 ga teng bo'lgan uchburchaklarga ajratadi. To'rtburchakning diagonalini toping.
*9;
18;
15;
12;
117. Perimetri 32 ga teng bo'lgan to'rtburchakning diagonali uni perimetrlari 20 va 16 ga teng bo'lgan uchburchaklarga ajratadi. To'rtburchakning diagonalini toping.
*2;
4;
3;
6;
118. Teng yonli uchburchakning asosi yon tomonidan 3 sm katta, lekin yon tomonlar yig'indisidan 5 sm kichik. Uchburchak tomonlarini toping.
*8, 8, 11;
7, 7, 10;
6, 6, 9;
5, 5, 8;

119. ABC uchburchakning BC tomoniga o'tkazilgan o'rta perpendikulyar AC tomonini D nuqtada kesib o'tadi. Agar $BD = 7{,}2\ sm,\ AD = 3{,}2\ sm$ bo'lsa, AC =?.
*10,4;
4;
11,6;
5,9;
120. ABC uchburchakning BC tomoniga o'tkazilgan o'rta perpendikulyar AC tomonini D nuqtada kesib o'tadi. Agar $BD = 9\ sm,\ AD = 4{,}8\ sm$ bo'lsa, AC =?.
*13,8;
4,2;
8,6;
12,6;
121. ABC teng yonli uchburchakning AB yon tomoniga o'tkazilgan o'rta perpendikulyar BC tomonini D nuqtada kesib o'tadi. Agar ADC uchburchakning perimetri 24 sm va $AB = 16$ sm bo'lsa, AC asosni toping.
*8;
10;
12;
14;
122. ABC teng yonli uchburchakning AB yon tomoniga o'tkazilgan o'rta perpendikulyar BC tomonini D nuqtada kesib o'tadi. Agar ADC uchburchakning perimetri 36 sm va $AB = 24$ sm bo'lsa, AC asosni toping.
*12;
14;
16;
18;
123. ABC va DEF teng yonli uchburchaklar teng. ABC uchburchakda $AC = BC$ va $AB = 2\ sm$. Agar $DE = 4\ sm$ bo'lsa, ABC uchburchakning perimetrini toping.
*10;
9;
8;
7;
124. Teng yonli uchburchakning ikki tomoni 8 va 3 ga teng. Uning uchinchi tomonini toping.
*8;
3;
8 yoki 3;
Aniqlab bo'lmaydi.
125. Teng yonli uchburchakning perimetri 48, yon tomoni 18 ga teng. Uning asosini toping.
*12;
15;
18;
16;
126. Teng yonli uchburchakning perimetri 48 ga teng. Uning tomonlaridan biri 12 ga teng bo'lsa, qolgan tomonlarini toping.
*18, 18;
18, 18 yoki 12, 24;
12, 24;
Aniqlab bo'lmaydi.
127. Teng yonli uchburchakning perimetri 36 ga, tomonlaridan biri 16 ga teng. Uchburchakning qolgan ikki tomonining uzunliklarini toping.
*10, 10 yoki 4, 16;

10, 10;
4, 16;
Aniqlab bo'lmaydi.
128. AE va BD kesmalar C nuqtada kesishadi. Agar $DC = DE,\ AB = BC$ va $\angle BAC = 48^0$ bo'lsa, $\angle CED$ =?.
*48^0;
42^0;
66^0;
132^0;
129. ABC uchburchak ichida D nuqta olingan. Agar $AC = AB,\ CD = BD$ va $\angle BDA = 120^0$ bo'lsa, $\angle ADC$ =?.
*120^0;
60^0;
30^0;
150^0;
130. AB va CD kesmalar – markazi O nuqtada bo'lgan aylananing diametrlari. Agar $CB = 10\ sm,\ AB = 12\ sm$ bo'lsa, AOD uchburchakning perimetrini toping.
*22;
16;
17;
24;
131. Aylana tashqarisidagi nuqtadan aylananing eng yaqin va uzoq nuqtalarigacha bo'lgan masofalar mos ravishda 2 sm va 10 sm bo'lsa, aylan radiusini toping.
*4;
6;
5;
7;
132. Agar ikki to'g'ri chiziqni uchinchi to'g'ri chiziq bilan kesganda hosil bo'lgan burchaklardan biri 82^0 va yana biri 110^0 bo'lsa, qolgan burhaklarni toping.
*$90^0,\ 98^0$;
$98^0,\ 82^0$;
$90^0,\ 110^0$;
Bunday hol bo'lishi mumkin emas.
133. Mos tomonlari parallel to'g'ri chiziqlarda yotgan burchaklar ayirmasi 40^0 ga teng. Bu burchaklarni toping.
*$110^0,\ 70^0$;
$100^0,\ 60^0$;
$90^0,\ 50^0$;
$100^0,\ 80^0$;
134. Mos tomonlari parallel to'g'ri chiziqlarda yotgan ikki burchak yig'indisi 146^0 ga teng. Bu burchaklardan kichigini toping.
*73^0;
34^0;
46^0;
85^0;
135. Mos tomonlari parallel to'g'ri chiziqlarda yotgan ikki burchakdan biri ikkinchisidan uch marta katta. Bu burchaklardan kattasini toping.
*135^0;
120^0;
130^0;
125^0;

136. Mos tomonlari perpendikulyar to’g’ri chiziqlarda yotgan burchaklarning ayirmasi 50^0 ga teng. Bu burchaklarni toping.
*$115^0,\ 65^0$;
$120^0,\ 70^0$;
$110^0,\ 70^0$;
$120^0,\ 60^0$;
137. Mos tomonlari perpendikulyar to’g’ri chiziqlarda yotgan ikki burchakdan biri ikkinchisidan uch marta katta. Bu burchaklardan kattasini toping.
*135^0;
120^0;
130^0;
125^0;
138. Mos tomonlari perpendikulyar to’g’ri chiziqlarda yotgan ikki burchak yig’indisi 168^0 ga teng. Bu burchaklardan kichigini toping.
*84^0;
78^0;
6^0;
12^0;
139. Tekislikda berilgan to’g’ri chiziqda yotmaydigan nuqta orqali shu to’g’ri chiziqqa nechta parallel to’g’ri chiziq o’tkazish mumkin?
*1 ta;
2 ta;
O’tkazib bo’lmaydi;
Istalgancha;
140. Tekislikda berilgan to’g’ri chiziqda yotmaydigan nuqta orqali shu to’g’ri chiziqqa nechta perpendikulyar to’g’ri chiziq o’tkazish mumkin?
*1 ta;
2 ta;
O’tkazib bo’lmaydi;
Istalgancha;
141. Mos pomonlari perpendikulyar bo’lgan burchaklardan biri ikkinchisidan 90^0 ga katta. Shu burchaklardan kattasini toping.
*135^0;
140^0;
145^0;
150^0;
142. Uchburchakning ikkita burchagi $8:5$ nisbatda va uchinchi burchagi 50^0 ga teng. Uning katta burchagini toping.
*80^0;
70^0;
75^0;
90^0;
143. Uchburchak burchaklari 1, 2 va 3 sonlarga proporsional. Uning kichik burchagini toping.
*30^0;
15^0;
45^0;
50^0;
144. Uchburchakning burchaklari 5, 6 va 7 sonlariga proporsional. Uning katta burchagini toping.

*70^0;
75^0;
65^0;
80^0;
145. Uchburchakning bitta α burchagi qolgan burchaklari yig'indisining yarmiga teng. α =?.
*60^0;
90^0;
80^0;
70^0;
146. Teng yonli uchburchakning burchaklaridan biri 50^0 bo'lsa uning qolgan burchaklarini toping.
*$50^0,\ 80^0$ yoki $65^0,\ 65^0$;
$65^0,\ 65^0$;
$50^0,\ 80^0$;
Aniqlab bo'lmaydi.
147. Teng yonli uchburchakning burchaklaridan biri 40^0 bo'lsa uning qolgan burchaklarini toping.
*$40^0,\ 100^0$ yoki $70^0,\ 70^0$;
$40^0,\ 100^0$;
$70^0,\ 70^0$;
Aniqlab bo'lmaydi.
148. Uchburchakning ikki tashqi burchagi 120^0 va 135^0 bo'lsa, ichki burchaklarini toping.
*$75^0,\ 60^0,\ 45^0$;
$70^0,\ 60^0,\ 50^0$;
$70^0,\ 65^0,\ 45^0$;
$75^0,\ 65^0,\ 40^0$;
149. Uchburchakning 100^0 li tashqi burchagiga qo'shni bo'lmagan ichki burchaklarning ayirmasi 20^0 ga teng. Shu ichki burchaklarni toping.
*$60^0,\ 40^0$;
$70^0,\ 50^0$;
$65^0,\ 45^0$;
$75^0,\ 55^0$;
150. Uchburchakning 110^0 li tashqi burchagiga qo'shni bo'lmagan ichki burchaklarning ayirmasi 30^0 ga teng. Shu ichki burchaklarni toping.
*$70^0,\ 40^0$;
$60^0,\ 30^0$;
$65^0,\ 35^0$;
$55^0,\ 25^0$;
151. 6 hadli geometrik progressiyaning dastlabki 3 ta hadi yig'indisi 14 ga, ohirgi uchtasiniki esa 112 ga teng. Uning birinchi hadini toping.
*2;
3;
4;
1;
152. Uchta son ishorasi almashuvchi geometrik progressiya tashkil etadi. Agar ohirgi son 16 ga kamaytirilsa arifmetik progressiya hosil bo'ladi. Agar birinchi son 9 ga teng bo'lsa, ohirgi sonni toping.
*1;
49;
24;
18;

153. Yig’indisi 24 ga teng bo’lgan uchta son arifmetik progressiya tashkil etadi. Agar ikkinchi son 1 ga, ohirgi son esa 14 ga orttirilsa kamayuvchi geometrik progressiya hosil bo’adi. Ohirgi sonni toping.
*-11;
3;
13;
27;
154. Yig’indisi 91 ga teng bo’lgan uchta son kamayuvchi geometrik progressiya tashkil etadi. Agar bu sonlarga mos ravishda 25, 27 va 1 qo’shilsa arifmetik progressiyaning ketma-ket uchta hadi hosil bo’ladi.Geometrik progressiyaning 4-hadini toping.
*$\frac{7}{9}$;
189;
$\frac{7}{27}$;
63;
155. Yig’indisi 31 bo’lgan uchta son geometrik progressiyaning ketma-ket uchta hadidan iborat. Bu sonlarni mos ravishda arifmetik progressiyaning 1-, 2- va 7- hadi deyish mumkin. Arifmetik progressiyaning ayirmasini toping.
*4;
3;
5;
2;
156. Agar ikki sondan birinchisining ikkilanganidan ikkinchi sonning ayirmasi 7 ga teng, birinchi sondan ikkinchi son ikkilanganining ayirmasi 8 ga teng bo’lsa, shu sonlarning kichigini toping.
*-3;
-5;
-4;
-2;
157. Ikki fermer birgalikda 1456 sr bug’doy yig’di. Birinchi fermer 46 ga, ikkinchi fermer esa 35 ga maydondan bug’doy yig’ib oldi. Birinchi fermer 1 ga maydondan ikkinchisiga qaraganda 7 sr ko’p bug’doy olgan bo’lsa, birinchi fermer bir gektar yerdan necha sentnerdan hosil olgan?
*38,5;
36;
31,5;
42;
158. Ikki fermer birgalikda 1456 sr bug’doy yig’di. Birinchi fermer 46 ga, ikkinchi fermer esa 35 ga maydondan bug’doy yig’ib oldi. Birinchi fermer 1 ga maydondan ikkinchisiga qaraganda 7 sr ko’p bug’doy olgan bo’lsa, ikkinchi fermer necha sr hosil olgan?
*31,5;
30;
28,5;
33;
159. 58800 sovg’ani tayyorlash uchun I firma 30 kun, II firma 28 kun ishladi. I firma 6 kunda II firma 4 kunda tayyorlaganidan 6000 dona ko’p sovg’a tayyorlagan bo’lsa, I firma kuniga nechta sovg’a tayyorlagan?
*1400;
1500;
1600;
1200;
160. Sovg’alar tayyorlash uchun I firma 30 kun, II firma 28 kun ishladi. I firma 6 kunda II firma 4 kunda tayyorlaganidan 6000 dona ko’p sovg’a tayyorlagan bo’lsa, II firma kuniga nechta sovg’a tayyorlagan?

*600;
500;
900;
800;
161. 60 km masofani bir velosipedchi ikkinchisiga qaraganda 1 soat tezroq bosib o'tdi. Agar birinchi velosipedchining tezligi ikkinchisinikidan 5 km/soat kam bo'lsa, birinchi velosipedchining tezligini (km/soat) toping.
*15;
18;
12;
20;
162. 60 km masofani bir velosipedchi ikkinchisiga qaraganda 1 soat tezroq bosib o'tdi. Agar birinchi velosipedchining tezligi ikkinchisinikidan 5 km/soat kam bo'lsa, ikkinchi velosipedchi yo'lga qancha vaqt sarfladi?
*3;
4;
3,5;
2,5
163. Omonatchi bankga 32000 so‘m pul qo‘ydi. Oradan 3 yil o‘tgach, u o‘ziga tegishli hamma pulni qaytarib oldi. Agar bank yiliga 5% foyda to‘lasa, omonatchi bankdan necha so‘m pul olgan?
*37044;
36568;
38254;
35404;
164. Agar uch xonali sondan 6 ni ayirsak, ayirma 7 ga bo‘linadi, 7 ni ayirsak, ayirma 8 ga bo‘linadi, 8 ni ayirsak, ayirma 9 ga bo‘linadi. Bu sonni toping.
*503;
167;
143;
936;
165. $\overline{aa}$ va $\overline{bb}$ ikki xonali sonlar bo‘lib, $(\overline{aa})^2 + \left(\overline{bb}\right)^2 = 2057$ va $a + b = 5$ bo‘lsa, $a \cdot b$ ni toping.
*4;
8;
15;
6;
166. k ning qanday qiymatida tenglamalar sistemasi yagona yechimga ega: $\begin{cases} 2x + y = k \\ xy = 18 \end{cases}$
*$k = \pm 12$;
$k = 12$;
$k = -12$;
k ning bunday qiymati mavjud emas.
167. k ning qanday qiymatida tenglamalar sistemasi yagona yechimga ega: $\begin{cases} x + 3y = k \\ xy = 12 \end{cases}$
*$k = \pm 12$;
$k = 12$;
$k = -12$;
k ning bunday qiymati mavjud emas.
168. k ning qanday qiymatida tenglamalar sistemasi yagona yechimga ega: $\begin{cases} 4x + y = 12 \\ xy = k \end{cases}$

*9;
6;
4;
1;
169. k ning qanday qiymatida tenglamalar sistemasi yagona yechimga ega: $\begin{cases} 2x+y=10 \\ xy=k \end{cases}$
*12,5;
8;
4,5;
2;
170. k ning qanday qiymatida $\begin{cases} 2x+y=2k+4 \\ x-y=k-2 \end{cases}$ tenglamalar sistemasining yechimi koordinatalar tekisligining 1 choragiga tegishli bo'ladi?
*$k > -\frac{2}{3}$;
$-\frac{2}{3} < k < 0$;
$k < 0$;
k ning bunday qiymati mavjud emas.
171. a ning qanday qiymatida tenglamaning ildizi 2 dan katta bo'ladi?; $a^2(x-2) = x + a - 3$;
*$(-1, 1) \cup (1, +\infty)$;
$(-1, +\infty)$;
$(-1,\ 1)$;
$(-\infty, -1) \cup (-1; 1)$;
172. p ning qanday qiymatida tenglama bitta ildizga ega bo'ladi?; $p(p+2x) = 7x + 2p + 5$;
*$p \neq 3{,}5$;
$p \neq 1$;
$p \neq -1$;
$a \in R$;
173. p ning qanday qiymatida tenglama cheksiz ko'p ildizga ega bo'ladi?; $p(p+2x) = 7x + 2p + 5$;
*p ning bunday qiymati mavjud emas;
3,5;
1;
–1;
174. p ning qanday qiymatida tenglama ildizga ega bo'lmaydi?; $p(p+2x) = 7x + 2p + 5$;
*3,5;
1;
–1;
p ning bunday qiymati mavjud emas;
175. a ning qanday qiymatida tenglama ildizga ega bo'lmaydi?; $a^2(x-2) = x + a - 3$;
*–1;
1;
± 1;
a ning bunday qiymati mavjud emas;
176. Tenglama bitta ildizga ega bo'ladigan a ning qiymatlari yig'indisini toping; $\frac{2x+a}{x+2} + \frac{4x-a}{4-x} = 2$;
*30;
20;
10;
0;

177. Tenglama bitta ildizga ega bo'ladigan a ning qiymatlari yig'indisini toping; $\frac{x-a}{x-1}-\frac{3x+a}{x+3}=2$;
*15;
10;
5;
0;
178. Tenglama bitta ildizga ega bo'ladigan a ning qiymatlari yig'indisini toping; $\frac{2x-a}{x+2}+\frac{4x+a}{4-x}=2$;
*–30;
–20;
–10;
0;
179. Tenglama bitta ildizga ega bo'ladigan a ning qiymatlari yig'indisini toping; $\frac{x+a}{x-1}+\frac{a-3x}{x+3}=2$;
*–15;
–10;
–5;
0;
180. Tenglama bitta ildizga ega bo'ladigan a ning qiymatlari yig'indisini toping; $\frac{4x+a}{x+4}+\frac{2x-a}{2-x}=2$;
*30;
20;
10;
0;
181. Sistemani yeching: $\begin{cases} x^2+y^2+3xy=-1 \\ x+2y=0 \end{cases}$
$*(-2;1),(2;\ -1)$;
$(-2;1)$;
$(2;\ -1)$;
$\emptyset$;
182. Sistemani yeching: $\begin{cases} \frac{1}{x}+\frac{1}{y}=\frac{5}{6} \\ 2y-x=1 \end{cases}$
$*(3;2),(-0{,}4;\ 0{,}3)$;
$(3;2)$;
$(-0{,}4;\ 0{,}3)$;
$\emptyset$;
183. Sistemani yeching: $\begin{cases} \frac{5}{x}-\frac{12}{xy}+\frac{4}{y}=2 \\ x-y-3=0 \end{cases}$
$*(4{,}5;1{,}5),(3;\ 0)$;
$(4{,}5;1{,}5)$;
$(3;\ 0)$;
$\emptyset$;
184. Sistemani yeching: $\begin{cases} \frac{1}{y}-\frac{1}{x}=\frac{1}{3} \\ x-2y=2 \end{cases}$
$*(6;2),(-1;\ -1{,}5)$;
$(-1;\ -1{,}5)$;
$(6;2)$;
$\emptyset$;
185. Sistemani yeching: $\begin{cases} \frac{4}{x}-\frac{12}{xy}+\frac{3}{y}=1 \\ x-y=1 \end{cases}$

*$(4;3)$;
$(4;3),(3;\ 2)$;
$(3;2)$;
$\emptyset$;
186. a ning qanday qiymatlarida $(a^2-a)x<3-3a$ tengsizlik yechimga ega emas?
*1;
0;
0 va 1;
a ning bunday qiymati mavjud emas;
187. a ning qanday qiymatlarida $(a^2-a)x<3-3a$ tengsizlik barcha $x\in R$ larda o'rinli?
*0;
1;
0 va 1;
a ning bunday qiymati mavjud emas;
188. a ning qanday qiymatlarida $(a^2-a)x<3-3a$ tengsizlik $(-6;\infty)$ yechimga ega bo'ladi?
*0,5;
0,4;
0,3;
0,2;
189. a ning qanday qiymatlarida $(a^2-a)x<3-3a$ tengsizlik $(-\infty;2)$ yechimga ega bo'ladi?
*-1,5;
-2;
-2,5;
-1;
190. a va b ning qanday qiymatlarida $(2-a)x<b+1$ tengsizlik yechimga ega emas?
*$a=2,\ b\le -1$;
$a=2,\ b<-1$;
$a<2,\ b=-1$;
$a\le 2,\ b=-1$;
191. a va b ning qanday qiymatlarida $(3-a)x<b-2$ barcha $x\in R$ larda o'rinli?
*$a=3,\ b>2$;
$a=3,\ b\ge 2$;
$a<3,\ b=2$;
$a\le 3,\ b=2$;
192. a va b ning qanday qiymatlarida $ax<b$ tengsizlik $(3;\infty)$ yechimga ega bo'ladi?
*$b=3a,\ b<0$;
$b=3a,\ b>0$;
$b<3a,\ a<0$;
$b<3a,\ a>0$;
193. a va b ning qanday qiymatlarida $ax<b$ tengsizlik $(-\infty;-1)$ yechimga ega bo'ladi?
*$a=-b,\ b<0$;
$a=-b,\ b>0$;
$a<-b,\ a<0$;
$a<-b,\ a>0$;
194. m ning qanday qiymatlarida $(m-1)x<5m$ tengsizlik yechimga ega emas?
*m ning bunday qiymati mavjud emas;
1;
0;

0 va 1;
195. m ning qanday qiymatlarida $(m-1)x < 5m$ tengsizlik barcha $x \in R$ larda o'rinli?
*1;
0;
0 va 1;
m ning bunday qiymati mavjud emas;
196. n raqamining qanday qiymatlarida $12603274n$ soni 6 ga qoldiqsiz bo'linadi?
*2, 8
2
2, 4, 8
8
197. n raqamining qanday qiymatlarida $4693274n$ soni 8 ga qoldiqsiz bo'linadi?
*4
8
0
0, 8
198. n raqamining qanday qiymatlarida $12198274n$ soni 11 ga qoldiqsiz bo'linadi?
*0
3
4
9
199. n raqamining qanday qiymatlarida $4503274n$ soni 15 ga qoldiqsiz bo'linadi?
*5
0
0, 5
Bunday n mavjud emas
200. n raqamining qanday qiymatlarida $3274n$ soni 12 ga qoldiqsiz bo'linadi?
*8
2
0
Bunday n mavjud emas
201. soddalashtiring: $(1+\cos^{-1} 2\alpha + \operatorname{tg} 2\alpha)(1-\cos^{-1} 2\alpha + \operatorname{tg} 2\alpha)$;
*$2\operatorname{tg} 2\alpha$;
1;
$\operatorname{ctg}\frac{\alpha}{2}$;
0;
202. soddalashtiring: $\left(\cos^{-1} 2\alpha + \operatorname{ctg}\left(\frac{5\pi}{2}+2\alpha\right)\right)\operatorname{ctg}\left(\frac{5\pi}{4}-\alpha\right)$;
*1;
$2\operatorname{tg} 2\alpha$;
$\operatorname{ctg}\frac{\alpha}{2}$;
0;
203. soddalashtiring: $\sin^{-1}\alpha + \operatorname{tg}^{-1}\alpha$;
*$\operatorname{ctg}\frac{\alpha}{2}$;
$2\operatorname{tg} 2\alpha$;
1;
0;
204. soddalashtiring: $\frac{\sin 2\alpha - \sin 3\alpha + \sin 4\alpha}{\cos 2\alpha - \cos 3\alpha + \cos 4\alpha}$;

*$\operatorname{tg} 3\alpha$;
1;
$\operatorname{ctg}\frac{\alpha}{2}$;
0;
205. soddalashtiring: $1-\sin 4\alpha+\operatorname{ctg}\left(\frac{3\pi}{4}-2\alpha\right)\cos 4\alpha$;
*0;
$\operatorname{tg}\alpha$;
$\frac{1}{2}\operatorname{tg} 2\alpha$;
1;
206. soddalashtiring: $\frac{\cos\left(\frac{5\pi}{2}-6\alpha\right)+\sin(\pi+4\alpha)+\sin(3\pi-\alpha)}{\sin\left(\frac{5\pi}{2}+6\alpha\right)+\cos(4\alpha-2\pi)+\cos(2\pi+\alpha)}$;
*$\operatorname{tg}\alpha$;
0;
$\frac{1}{2}\operatorname{tg} 2\alpha$;
1;
207. soddalashtiring: $\frac{1+\operatorname{ctg}\left(2\alpha-\frac{3\pi}{2}\right)\operatorname{ctg}\left(\alpha+\frac{3\pi}{2}\right)}{\operatorname{ctg}\alpha+\operatorname{tg}\alpha}$;
*$\frac{1}{2}\operatorname{tg} 2\alpha$;
0;
$\operatorname{tg}\alpha$;
1;
208. soddalashtiring: $\sin\alpha+\sin\left(\alpha+\frac{14\pi}{3}\right)+\sin\left(\alpha-\frac{8\pi}{3}\right)$;
*0;
$\operatorname{tg}\alpha$;
$\frac{1}{2}\operatorname{tg} 2\alpha$;
1;
209. soddalashtiring: $\frac{(\operatorname{tg}\alpha+\cos^{-1}\alpha)(\cos\alpha-\operatorname{ctg}\alpha)}{(\operatorname{tg}\alpha-\cos^{-1}\alpha)(\cos\alpha+\operatorname{ctg}\alpha)}$;
*1;
0;
$\operatorname{tg}\alpha$;
$\frac{1}{2}\operatorname{tg} 2\alpha$;
210. soddalashtiring: $\frac{\sin 4\alpha}{1+\cos 4\alpha}\cdot\frac{\cos 2\alpha}{1+\cos 2\alpha}$;
*$\operatorname{tg}\alpha$;
0;
$\frac{1}{2}\operatorname{tg} 2\alpha$;
1;
211. soddalashtiring: $\frac{\operatorname{tg} 2\alpha\cos^{-1} 2\beta-\cos^{-1} 2\alpha\operatorname{tg} 2\beta}{\cos^{-1} 2\beta+\cos^{-1} 2\alpha}$;
*$\operatorname{tg}(\alpha-\beta)$;
$\operatorname{tg}(\alpha+\beta)$;
$\frac{1}{2}\operatorname{tg}(\alpha-\beta)$;
$\frac{1}{2}\operatorname{tg}(\alpha+\beta)$;
212. soddalashtiring: $2\left(\sin^{-1} 4\alpha-\operatorname{tg}\left(\frac{7\pi}{2}+4\alpha\right)\right)+\operatorname{tg}(5\pi+\alpha)$;

*$\operatorname{ctg}\alpha$;
$-\frac{1}{\sqrt{2}}\cos 4\alpha$;
$\frac{1}{\sqrt{2}}\sin 4\alpha$;
$\cos 2\alpha$;
213. soddalashtiring: $\sin^2\left(\frac{15\pi}{8}-2\alpha\right)-\cos^2\left(\frac{17\pi}{8}-2\alpha\right)$;
*$-\frac{1}{\sqrt{2}}\cos 4\alpha$;
$\operatorname{ctg}\alpha$;
$\frac{1}{\sqrt{2}}\sin 4\alpha$;
$\cos 2\alpha$;
214. soddalashtiring: $\sin^2\left(\frac{7\pi}{8}-2\alpha\right)-\sin^2\left(\frac{9\pi}{8}-2\alpha\right)$;
*$\frac{1}{\sqrt{2}}\sin 4\alpha$;
$\operatorname{ctg}\alpha$;
$-\frac{1}{\sqrt{2}}\cos 4\alpha$;
$\cos 2\alpha$;
215. soddalashtiring: $\cos 4\alpha-\sin 4\alpha\operatorname{ctg}2\alpha+2\cos^2\alpha$;
*$\cos 2\alpha$;
$\operatorname{ctg}\alpha$;
$-\frac{1}{\sqrt{2}}\cos 4\alpha$;
$\frac{1}{\sqrt{2}}\sin 4\alpha$;
216. soddalashtiring: $\sin^2 2\alpha-\cos\left(\frac{\pi}{3}-2\alpha\right)\sin\left(2\alpha-\frac{\pi}{6}\right)$;
*0,25;
1;
$\operatorname{ctg}\alpha$;
$\cos 2\alpha$;
217. soddalashtiring: $\sin^2\alpha+\cos\left(\frac{\pi}{3}-\alpha\right)\cos\left(\alpha+\frac{\pi}{3}\right)$;
*0,25;
1;
$\operatorname{ctg}\alpha$;
$\cos 2\alpha$;
218. soddalashtiring: $\frac{\operatorname{tg}3\alpha}{\operatorname{tg}^2 3\alpha-1}\cdot\frac{1-\operatorname{ctg}^2 3\alpha}{\operatorname{ctg}3\alpha}$;
*1;
0,25;
$\operatorname{ctg}\alpha$;
$\cos 2\alpha$;
219. soddalashtiring: $\cos 4\alpha-\sin 4\alpha\operatorname{ctg}2\alpha$;
*– 1;
– 0,25;
$\operatorname{ctg}\alpha$;
$\cos 2\alpha$;
220. soddalashtiring: $\frac{1-\cos 4\alpha}{\cos^{-2}2\alpha-1}+\frac{1+\cos 4\alpha}{\sin^{-2}2\alpha-1}$;
*2;
$\sin 2\alpha$;

1;
$\cos 2\alpha$;
221. soddalashtiring: $\cos^2(45^0-\alpha)-\cos^2(60^0+\alpha)-\cos 75^0\sin(75^0-2\alpha)$;
*$\sin 2\alpha$;
2;
1;
$\cos 2\alpha$;
222. soddalashtiring: $\sin^2(45^0+\alpha)-\sin^2(30^0-\alpha)-\sin 15^0\cos(15^0+2\alpha)$;
*$\sin 2\alpha$;
2;
1;
$\cos 2\alpha$;
223. soddalashtiring: $\sin^6\alpha+\cos^6\alpha+3\cos^2\alpha\sin^2\alpha$;
*1;
2;
$\sin 2\alpha$;
$\cos 2\alpha$;
224. soddalashtiring: $\sin\alpha\sin(x-\alpha)+\sin^2\left(\frac{x}{2}-\alpha\right)$;
*$\sin^2\frac{x}{2}$;
$\sin\alpha$;
$\cos x$;
$\sin^2\frac{\alpha}{2}$;
225. soddalashtiring: $\frac{\sin 7\alpha}{\sin\alpha}-2(\cos 2\alpha+\cos 4\alpha+\cos 6\alpha)$;
*1;
$\sin\alpha$;
$\cos\alpha$;
$\sin^2\frac{\alpha}{2}$;
226. Hisoblang: $(\sin 160^0+\sin 40^0)(\sin 140^0+\sin 20^0)+(\sin 50^0-\sin 70^0)(\sin 130^0-\sin 110^0)$;
*1;
$\cos 20^0$;
0;
2;
227. Hisoblang: $\cos^{-1}34^0+\mathrm{tg}^{-1}56^0$;
*$\mathrm{ctg}\,28^0$;
1;
$\cos 28^0$;
0;
228. Hisoblang: $\frac{\cos 28^0\cos 56^0}{\sin 2^0}-\frac{\sqrt{3}\sin 38^0}{4\sin 2^0\sin 28^0}+\frac{\cos 2^0\cos 4^0}{\sin 28^0}$;
*0;
1;
$\cos 2^0$;
2;
229. Hisoblang: $4\sin 50^0+\cos^{-1}160^0$;
*2;
1;
$\cos 20^0$;

0;
230. Hisoblang: $(\cos 70^0 + \cos 50^0)(\cos 310^0 + \cos 290^0) + (\cos 40^0 + \cos 160^0)(\cos 320^0 - \cos 380^0)$;
*1;
$\cos 10^0$;
0;
$\cos 40^0$;
231. Agar $\operatorname{tg}\alpha = \frac{2}{3}$ bo'lsa, $\sin\left(2\alpha + \frac{5\pi}{4}\right)$ ni hisoblang.
*$-\frac{17\sqrt{2}}{26}$;
$\frac{17\sqrt{2}}{26}$;
$-\frac{15\sqrt{2}}{26}$;
$\frac{15\sqrt{2}}{26}$;
232. Agar $\operatorname{tg}\alpha = 0{,}2$ bo'lsa, $\frac{5}{7\sin 2\alpha + 6}$ ni hisoblang.
*$\frac{65}{113}$;
$\frac{69}{113}$;
$\frac{63}{113}$;
$\frac{71}{113}$;
233. Agar $\operatorname{tg}\alpha = -2$ bo'lsa, $1 + 5\sin 2\alpha - 3\cos^{-1} 2\alpha$ ni hisoblang.
*2;
1;
0,5;
4;
234. Agar α va β to'g'ri burchakli uchburchakning o'tkir burchaklari bo'lsa, $\frac{\sin 2\alpha + \sin 2\beta}{\sin\alpha \sin\beta}$ ni hisoblang.
*4;
2;
1;
0;
235. Agar $\alpha,\ \beta,\ \gamma$ miqdorlar arifmetik progressiya tashkil etsa, $\frac{\sin\alpha - \sin\gamma}{\cos\gamma - \cos\alpha} - \operatorname{ctg}\beta$ ni hisoblang.
*0;
1;
– 1;
$\operatorname{ctg}\beta$;
236. Soddalashtiring: $\left(27^{\frac{1}{\log_2 3}} + 5^{\log_{25} 49}\right)\left(81^{\frac{1}{\log_4 9}} - 8^{\log_4 9}\right) : \left(3 + 5^{\frac{1}{\log_{16} 25}} \cdot 5^{\log_5 3}\right)$;
*– 11;
– 13;
–7;
– 1;
237. Soddalashtiring: $\sqrt{27^{\frac{1}{\log_2 3}} + 49^{\frac{1}{\log_8 7}}}$;
*$6\sqrt{2}$;
1;
6;
$8\sqrt{2}$;

238. Soddalashtiring: $81^{\frac{1}{\log_5 3}} + 27^{\log_9 36} + 3^{\frac{4}{\log_7 9}}$;
*890;
980;
420;
240;
239. Soddalashtiring: $-\log_2 \log_2 \sqrt{\sqrt[4]{2}}$;
*3;
1;
– 3;
– 1;
240. Soddalashtiring: $-\log_3 \log_3 \sqrt[3]{\sqrt[3]{3}}$;
*2;
1;
– 2;
– 1;
241. Soddalashtiring: $\frac{1-\log_a^3 b}{(\log_a b+\log_b a+1)\log_a \frac{a}{b}}$;
*$\log_a b$;
$\log_b a$;
$-\log_a b$;
$-\log_b a$;
242. Soddalashtiring: $(\log_a b + \log_b a + 2)(\log_a b - \log_{ab} b)\log_b a - 1$;
*$\log_a b$;
$\log_b a$;
$-\log_a b$;
$-\log_b a$;
243. Soddalashtiring: $\left(\left(25^{\frac{1}{2\log_{49} 25}} + 2\log_2 \log_2 \log_2 a^{2\log_a 4}\right) \cdot 4^{\frac{-2}{\log_8 4}} - a^2\right) : (1-a)$;
*$a+1$;
$a-1$;
1;
– 1;
244. Soddalashtiring: $a^{\frac{2}{\log_b a}+1} b - 2a^{\log_a b+1} b^{\log_b a+1} + ab^{\frac{2}{\log_a b}+1}$;
*$ab(a-b)^2$;
$(a-b)^2$;
$a(a-b)^2$;
$b(a-b)^2$;
245. Soddalashtiring: $\frac{\log_a \sqrt{a^2-1} \cdot \log_{1/a}^2 \sqrt{a^2-1}}{\log_{a^2}(a^2-1) \cdot \log_{\sqrt{a}} \sqrt[6]{a^2-1}}$;
*$\log_a \sqrt{a^2-1}$;
$\log_a (a^2-1)$;
1;
– 1;
246. Sistemadan x ni toping: $\begin{cases} y = 1 + \log_4 x \\ x^y = 4^6 \end{cases}$;
*16 yoki $\frac{1}{8}$;
16;

$\frac{1}{8}$;
∅;
247. Sistemadan x ni toping: $\begin{cases}\log_4 x - \log_2 y = 0 \\ x^2 - 2y^2 = 8\end{cases}$;
*4;
4 yoki 2;
2;
∅;
248. Sistemadan x ni toping: $\begin{cases}\log_2 x + \log_4 y = 4 \\ \log_2 y + \log_4 x = 5\end{cases}$;
*4;
4 yoki 2;
2;
∅;
249. Sistemadan x ni toping: $\begin{cases}3^y \cdot 9^x = 81 \\ \lg(y+x)^2 - \lg x = 2\lg 3\end{cases}$;
*1 yoki 16;
1;
16;
∅;
250. Sistemadan x ni toping: $\begin{cases}3^{2\sqrt{x}-\sqrt{y}} = 81 \\ \lg\sqrt{xy} = 1 + \lg 3\end{cases}$;
*25;
25 yoki 9;
9;
∅;
251. Asalarilarning beshdan biri oq gullarga, uchdan biri esa qizil gullarga qo'ndi. Ular ayirmasining uch baravari esa sariq gullarga qo'ngan. Faqat bitta asalari uchib yuribdi. Gulzorda qancha asalari bor?
*15;
18;
20;
12;
252. It tulkini quvlamoqda. It sekundiga 8 m, tulki esa 6 m tezlikda chopmoqda. Ular orasidagi masofa 360 m bo'lsa qancha vaqtda it tulkiga yetib oladi.
*3 min;
2 min 40 sekund;
3 min 20 sekund;
2 min 30 sekund;
253. Ali bilan Valining massasi birgalikda 5 ta tarvuz massasiga teng. Valining massasi 1 ta qovun massasidan 4 marta ko'p. Vali bilan 2 ta qovunning birgalikdagi massasi 3 ta tarvuz massasiga teng. Alining massasi nechta qovunning massasiga teng?
*6;
5;
8;
4;
254. Oilada 6 ta qizning har birining akasi boru, ukasi yo'q. Shu oilada nechta farzand bor?
*7;
12;
11;

13;
255. Kenja farzand Akmalning akalari qancha bo’lsa, opalari ham shuncha. Katta opasining ukalari singillaridan 2 marta ko’p. Oilada nechta farzand bor?
*7;
9;
11;
5;
256. Arifmetik progressiyaning 24-hadi $10\sqrt{3}-4$ ga, ayirmasi $\frac{\sqrt{3}-1}{2}$ ga teng bo’lsa, uning birinchi hadini toping.
*$\frac{15-3\sqrt{3}}{2}$;
$\frac{15+3\sqrt{3}}{2}$;
$\frac{13-2\sqrt{3}}{2}$;
$\frac{13+2\sqrt{3}}{2}$;
257. Arifmetik progressiyaning 28-hadi $28+27q$ ga, ayirmasi $1+q$ ga teng bo’lsa, uning birinchi hadini toping.
*1;
$-q$;
q;
$1+q$;
258. Arifmetik progressiyaning birinchi hadi $\frac{2\sqrt{3}+3}{2}$ ga, 18-hadi $\frac{2\sqrt{3}-3}{2}$ ga teng bo’lsa, uning ayirmasini toping.
*$-\frac{3}{17}$;
$-\frac{\sqrt{3}+1}{17}$;
$\frac{3}{17}$;
$\frac{\sqrt{3}-1}{17}$;
259. Arifmetik progressiyaning birinchi hadi $3-7m$ ga, 9-hadi $m-5$ ga teng bo’lsa, uning ayirmasini toping.
*$m-1$;
-1;
m;
$m+1$;
260. $\sqrt{5}, 6+\sqrt{5}, 12+\sqrt{5}$ progressiyaning 10-hadini toping.
*$54+\sqrt{5}$;
$60+\sqrt{5}$;
$6+9\sqrt{5}$;
$60+10\sqrt{5}$;
261. 1 va 81 sonlari orasiga uchta musbat son qo’yilganda geometrik progressiya hosil bo’ldi. Qo’yilgan sonlarning yig’indisini toping.
*39;
45;
-21;
43;
262. Geometrik progressiyaning ikkinchi va uchinchi hadlarining yig’indisi 54 ga, ayirmasi esa 18 ga teng. Birinchi hadni toping.
*64;

36;
18;
9;
263. 6 hadli geometrik progressiyaning dastlabki 3 ta hadi yig'indisi 14 ga, ohirgi uchtasiniki esa 112 ga teng. Uning birinchi hadini toping.
*2;
3;
4;
1;
264. Uchta son ishorasi almashuvchi geometrik progressiya tashkil etadi. Agar ohirgi son 16 ga kamaytirilsa arifmetik progressiya hosil bo'ladi. Agar birinchi son 9 ga teng bo'lsa, ohirgi sonni toping.
*1;
49;
24;
18;
265. Yig'indisi 24 ga teng bo'lgan uchta son arifmetik progressiya tashkil etadi. Agar ikkinchi son 1 ga, ohirgi son esa 14 ga orttirilsa kamayuvchi geometrik progressiya hosil bo'adi. Ohirgi sonni toping.
*-11;
3;
13;
27;
266. Tengsizlikni yeching. $(3-\mathrm{x})^{\frac{3\mathrm{x}-5}{3-\mathrm{x}}}<1$
*$\left(-\infty; 1\frac{2}{3}\right) \cup (2; 3)$;
$\left(-\infty; 1\frac{2}{3}\right)$;
$\left(1\frac{2}{3}; 3\right)$;
$(2; 3)$;
267. Tengsizlikni yeching. $(\mathrm{x}-3)^{\mathrm{x}-0,2}<1$
*$(3; 4)$;
$(0; 4)$;
$(0{,}2; 4)$;
$(0; 0{,}2)$;
268. Tengsizlikni yeching. $\mathrm{x}^3 \cdot 3^{\mathrm{x}}-3^{\mathrm{x}+3} \leq 0$
*$(-\infty; 3]$;
$(-\infty; 3)$;
$(3; \infty)$;
$[3; \infty)$;
269. Tengsizlikni yeching. $\mathrm{x}^{\mathrm{x}^2-7\mathrm{x}}>1$
*$(0; 1) \cup (7; \infty)$;
$(0; 1)$;
$(7; \infty)$;
$(1; 7)$;
270. Tengsizlikni yeching. $(\mathrm{x}-3)^{\mathrm{x}^2-7\mathrm{x}} \geq 1$
*$(3; 4) \cup [7; \infty)$;
$(3; 4)$;
$[7; \infty)$;
$(3; 7)$;
271. Tengsizlikni yeching. $5 \cdot 2^{3\mathrm{x}}-24 \cdot 2^{5-3\mathrm{x}}+56 \leq 0$

*$(-\infty; 1]$;
$(0; 1)$;
$[0; 1]$;
$(0; 1]$;
272. Tengsizlikni yeching. $4^{\sqrt{x+1}} - 2^{\sqrt{x+1}} - 2 < 0$
*$[-1; 0)$;
$(-1; 1)$;
$[-1; 0]$;
$(0; 1]$;
273. Tengsizlikni yeching. $5^{2x} + 2 \cdot 5^{x} - 35 > 0$
*$(1; \infty)$;
$(-1; 1)$;
$[1; \infty)$;
$(0; 1]$;
274. Tengsizlikni yeching. $9^{x} < 8 \cdot 3^{x} + 9$
*$(-\infty; 2)$;
$(-\infty; 2]$;
$[0; 2]$;
$(0; 2]$;
275. Tengsizlikni yeching. $\frac{0,2^{x-0,5}}{\sqrt{5}} < 5 \cdot 0,04^{x-1}$
*$(-\infty; 3)$;
$(-\infty; -3)$;
$[-3; 0]$;
$(-\infty; 0] \cup [0; 3)$;
276. $3^{n} = 2$ va $48^{x} = 64$ bo`lsa, n ni x orqali ifodalang.
*$\frac{x}{6-4x}$;
$\frac{x}{6-x}$;
$\frac{6x}{4-x}$;
$\frac{x}{4x-6}$;
277. $2^{x} = m$ va $3^{x} = n$ bo`lsa, $144^{x} =$?
*m^4n^2;
m^3n^3;
m^2n^4;
m^2n^2;
278. $a^{-1} = (0,2)^{n}$ va $b = 3^{n}$ b`olsa, $225^{n} =$?
*a^2b^2;
a^3b^2;
a^2b^3;
ab^3;
279. $x > 0, x^6 = 8$ va $x^a \cdot x^b = 16$ bo`lsa, a+b=?
*8;
4;
6;
10;
280. a, b, c natural sonlar bo`lib, $32^a \cdot 125^b = 10^c$ tenglikni qanoatlantirsa, a+b+c yig`indining eng kichik qiymatini toping.

*23;
12;
18;
28;
281. $a = 2^5$ bo`lsa, $\log_a 64 =$?
*$\frac{6}{5}$;
$\frac{5}{6}$;
$\frac{2}{5}$;
1;
282. $\lg 3 = m$ va $\lg 5 = n$ bo`lsa, $\log_4 45 =$?
*$\frac{2m+n}{2-2n}$;
$\frac{2m+n}{2-2m}$;
$\frac{2m+n}{2+2n}$;
m+n.
283. $\log_9 a = \log_{27} b$ bo`lsa, $\log_a b =$?
*$\frac{3}{2}$;
$-\frac{2}{3}$;
$\frac{2}{3}$;
$-\frac{3}{2}$;
284. $\log_2 x = 0{,}18$ va $\log_2 y = 3{,}32$ bo`lsa, $x \cdot y =$?
*$8\sqrt{2}$;
$3\sqrt{2}$;
7;
3,5;
285. lg2=m, lg5=n va lg1400=P bol`sa, lg7=?
* P-3m-2n;
P+2m+3n;
P-3m+2n;
3m+2n;
286. O`sish tartibida joylshtiring. $a = \log_{\frac{1}{6}} 4$, $b = \log_{\frac{1}{5}} 6$, $c = \log_{\frac{1}{5}} 4$
*b<c<a;
a<c<b;
c<a<b;
a<b<c;
287. O`sish tartibida joylshtiring. $a = \log_{0,5} 4$, $b = \log_{0,6} 4$, $c = \log_{0,7} 4$
*c<b<a;
a<b<c;
a<c<b;
b<a<c;
288. O`sish tartibida joylshtiring. $a = \log_6 \frac{1}{10}$, $b = \log_6 \frac{1}{15}$, $c = \log_6 \frac{1}{20}$.
*c<b<a;
b<a<c;
a<c<b;
a<b<c;

289. O`sish tartibida joylashtiring. $a = \log_{\frac{1}{100}} 11$; $b = \log_{\frac{1}{9}} \frac{1}{100}$; $c = \log_9 1$.

*a<c<b;

c<b<a;

b<a<c;

a<b<c;

290. O`sish tartibida joylashtiring. $a = \log_{\frac{1}{3}} 3$; $b = \log_{\frac{1}{4}} 3$; $c = \log_{15} 4$.

*a<b<c;

a<c<b;

c<b<a;

b<a<c;

291. Hisoblang. $\log_{\sqrt{5}} \sqrt{5\sqrt{5\sqrt{5\ldots}}}$

*2;

0,5;

1;

0,25;

292. Hisoblang. $\log_2(1-\frac{1}{5}) + \log_2\left(1-\frac{1}{6}\right) + \log_2\left(1-\frac{1}{7}\right) + \cdots + \log_2(1-\frac{1}{64})$

*-4;

4;

0,25;

0,5;

293. Hisoblang. a>1, $\frac{3}{\log_2(2a)} + \frac{3}{\log_a(2a)}$

*3;

3a;

2a;

-2;

294. Hisoblang. $5\log_2 9 \cdot \log_3 64 + 3^{\log_6 3} \cdot 2^{\log_6 3}$

*63;

66;

60;

53;

295. Hisoblang. $\log_{15} 3 \cdot \log_5 3 \cdot \log_{\sqrt{3}} 5 \cdot (1 + \log_3 5)$

*2;

0,5;

3;

$\sqrt{2}$;

296. Funksiya grafigi qaysi choraklarda joylashgan. $y = |\log_3 x|$

* I;

I,II;

I,IV;

I,III;

297. Funksiya grafigi qaysi choraklarda joylashgan. $y = \log_3|x|$

*I,II,III,IV;

I,II;

I,IV;

I,II,IV;

298. Funksiya grafigi qaysi choraklarda joylashgan. $y = \log_2|3 - x|$

*I,II;
I,II,IV;
I,II,III;
I,II,III,IV;
299. Funksiya grafigi qaysi choraklarda joylashgan. $y = |1 - \log_2 x|$
*I;
I,II;
I,IV;
I,II,III,IV;
300. Funksiya grafigi qaysi choraklarda joylashgan. $y = \lg(9 - x^2)$
*I,II,III,IV;
I,II;
I,IV;
II,III;
301. Aylanadan tashqaridagi A nuqtadan aylanaga urinma va kesuvchi o'tkazildi. A nuqtadan urinish nuqtasigacha masofa 16 ga, kesuvchi aylanani kesgan nuqtalardan birigacha 32 ga teng. Agar aylana markazidan kesuvchigacha masofa 5 bo'lsa, aylana radiusini toping.
*13;
10;
15;
$8\sqrt{2}$;
302. Tomonlari 12, 15 va 18 bo'lgan uchburchak berilgan. Markazi katta tomonda bo'lgan aylana qolgan tomonlarga urinadi. Aylana markazi katta tomondan ajratgan kesmalardan kattasini toping.
*10;
13;
8;
$7\sqrt{2}$;
303. Aylananing 10 sm li vatarining bir uchidan aylanaga urinma o'tkazildi, ikkinchi uchidan esa urinmaga parallel kesuvchi o'tkazildi. Kesuvchining aylana ichidagi kesmasi 12 sm bo'lsa, aylana radiusini toping.
*6,25;
7;
5,5;
$4\sqrt{2}$;
304. Aylananing 120^0 yoyining ohirlaridan urinmalar o'tkazildi. Ikkinchi aylana bu urinmalarga va yoyga urinadi. Agar yoy uzunlligi 10 ga teng bo'lsa, ikkinchi aylananing uzunligini toping.
*10;
13;
8;
$8\sqrt{2}$;
305. To'g'ri burchakli uchburchakka ichki chizilgan aylana gipotenuzani urinish nuqtasida 5 va 12 ga teng kesmalarga ajratadi. Uchburchakning katta katetini toping.
*15;
16;
$10\sqrt{3}$;
12;
306. To'g'ri burchakli uchburchakka ichki chizilgan aylana gipotenuzani urinish nuqtasida 5 va 12 sm li kesmalarga ajratadi. Uchburchakning kichik katetini toping.
*8;

10;
$6\sqrt{3}$;
7;
307. Asoslari 20 va 12 sm bo'lgan teng yonli trapetsiyaga tashqi chizilgan aylananing markazi trapetsiyaning katta asosida yotadi. Trapetsiyaning diagonalini toping.
*$4\sqrt{5}$;
8;
$6\sqrt{3}$;
7;
308. Asoslari 20 va 12 sm bo'lgan teng yonli trapetsiyaga tashqi chizilgan aylananing markazi trapetsiyaning katta asosida yotadi. Trapetsiyaning yon tomonini toping.
*$8\sqrt{5}$;
$7\sqrt{6}$;
18;
$6\sqrt{7}$;
309. Teng yonli trapetsiyaning asoslari 21 va 9 sm hamda balandligi 8 sm. Unga tashqi chizilgan aylana radiusini toping.
*10,625;
10;
11;
$4\sqrt{7}$;
310. Rombning o'tmas burchagidan tushgan balandlig uning tomonini m va n uzunlikdagi kesmalarga ajratadi. Rombning kichik diagonalini toping.
*$\sqrt{2n(m+n)}$;
$\sqrt{4m^2+6mn+2n^2}$;
$\sqrt{nm(m+n)}$;
$\sqrt{m^2+6mn+2n^2}$;
311. Rombning o'tmas burchagidan tushgan balandlig uning tomonini m va n uzunlikdagi kesmalarga ajratadi. Rombning katta diagonalini toping.
*$\sqrt{4m^2+6mn+2n^2}$;
$\sqrt{2n(m+n)}$;
$\sqrt{nm(m+n)}$;
$\sqrt{m^2+6mn+2n^2}$;
312. Katetlari a va b bo'lgan to'g'ri burchakli uchburchakka kvadrat shunday ichki chizilganki, uchburchakning to'g'ri burchagi umumiy bo'lib qoldi. Kvadratning perimetrini toping.
*$\frac{4ab}{a+b}$;
$\frac{3ab}{a+b}$;
$\frac{6ab}{a+b}$;
$\frac{2ab}{a+b}$;
313. Diametri 15 bo'lgan aylanaga yon tomoni 17 bo'lgan trapetsiya tashqi chizildi. Trapetsiyaning katta asosini toping.
*25;
9;
30;
24;

314. Diametri 15 bo’lgan aylanaga yon tomoni 17 bo’lgan trapetsiya tashqi chizildi. Trapetsiyaning kichik asosini toping.
*9;
25;
8;
10;
315. Teng yonli uchburchakning asosi 16 sm, yon tomoni 10 sm. Unga ichki chizilgan aylana radiusini toping.
*$\frac{8}{3}$;
$\frac{25}{3}$;
3;
2,5;
316. Teng yonli uchburchakning asosi 16 sm, yon tomoni 10 sm. Unga tashqi chizilgan aylana radiusini toping.
*$\frac{25}{3}$;
$\frac{8}{3}$;
8;
8,5;
317. Teng yonli uchburchakning asosi 16 sm, yon tomoni 10 sm. Unga ichki va tashqi chizilgan aylanalar markazlari orasidagi masofani toping.
*5;
4;
6;
6,4;
318. Muntazam uchburchakning har bir tomonini 2:1 nisbatda bo’luvchi nuqtalar tutashtirildi. Hosil b’lgan uchburchakka ichki chizilgan aylananing radiusi 6 bo’lsa, berilgan uchburchakning tomonini toping.
*36;
42;
30;
24;
319. Radiusi R bo’lgan 90^0 li AOB sector berilgan. OA, AB kesmalarga va AB yoyga urinuvchi aylananing radiusini toping.
*$R(\sqrt{2}-1)$;
$R(\sqrt{2}+1)$;
$R\sqrt{2}$;
$\frac{R\sqrt{2}}{2}$;
320. Radiusi 11 sm bo’lgan aylana markazidan 7 sm uzoqlikdagi P nuqtadan 18 sm li vatar o’tkazildi. Bu vatardan P nuqta ajratgan katta kesmani toing.
*12;
15;
11;
10;
321. Yuzi q^2 ga teng bo’lgan teng tomonli uchburchakka ichki chizilgan aylana radiusini toping.
*$\frac{2\sqrt[4]{3}}{3}q$;
$\frac{\sqrt[4]{3}}{3}q$;
$\frac{\sqrt{3}}{3}q$;
Aniqlab bo’lmaydi;

322. Bir hil radiusli aylanalar kesishdi. Kesishmaga diagonallari 12 va 6 bo'lgan romb ichki chizildi. Aylanalarning radiusini toping.

*7,5;

8;

7;

$4\sqrt{3}$;

323. Radiusi R ga teng aylana berildi. Kvadratning ikki uchi aylanada qolgan ikki uchi esa aylanga o'tkazilgan urinmada yotadi. Kvadratning diagonalini toping.

*$1{,}6\sqrt{2}R$;

$1{,}5\sqrt{2}R$;

$\sqrt{2}R$;

$2\sqrt{2}R$;

324. Ikki aylananing umumiy vatari birinchi aylanaga ichki chizilgan kvadratning tomonidan hamda ikkinchi aylanaga ichki chizilgan muntazam oltiburchakning tomonidan iborat. Agar kichik aylananing radiusi r bo'lsa katta aylananing radiusini toping.

*$r\sqrt{2}$;

$r\sqrt{3}$;

$2r$;

$1{,}4\sqrt{2}r$;

325. Ikki aylananing umumiy vatari birinchi aylanaga ichki chizilgan kvadratning tomonidan hamda ikkinchi aylanaga ichki chizilgan muntazam oltiburchakning tomonidan iborat. Agar kichik aylana katta aylana ichida bo'lib uning radiusi r ga teng bo'lsa, aylanalar markazlari orasidagi masofani toping.

*$\frac{\sqrt{6}-\sqrt{2}}{2}r$;

$\frac{\sqrt{5}-1}{2}r$;

r;

$\frac{\sqrt{7}-\sqrt{3}}{2}r$;

326. Ikki aylananing umumiy vatari birinchi aylanaga ichki chizilgan kvadratning tomonidan hamda ikkinchi aylanaga ichki chizilgan muntazam oltiburchakning tomonidan iborat. Agar kichik aylana katta aylana ichida joylashmagan bo'lib uning radiusi r ga teng bo'lsa, aylanalar markazlari orasidagi masofani toping.

*$\frac{\sqrt{6}+\sqrt{2}}{2}r$;

$\frac{\sqrt{5}+1}{2}r$;

$3r$;

$\frac{\sqrt{7}+\sqrt{3}}{2}r$;

327. Ikki aylananing umumiy vatari a ga teng bo'lib u birinchi aylanaga ichki chizilgan kvadratning tomonidan hamda ikkinchi aylanaga ichki chizilgan muntazam uchburchakning tomonidan iborat. Agar kichik aylana katta aylana ichida bo'lsa, aylanalar markazlari orasidagi masofani toping.

*$\frac{3-\sqrt{3}}{6}a$;

$\frac{\sqrt{10}-2}{6}a$;

$\frac{\sqrt{2}}{6}a$;

$\frac{\sqrt{6}-1}{6}a$;

328. Ikki aylananing umumiy vatari a ga teng bo'lib u birinchi aylanaga ichki chizilgan kvadratning tomonidan hamda ikkinchi aylanaga ichki chizilgan muntazam uchburchakning tomonidan iborat. Agar kichik aylana katta aylana ichida joylashmagan bo'lsa, aylanalar markazlari orasidagi masofani toping.

*$\frac{3+\sqrt{3}}{6}a$;

$\frac{\sqrt{10}+2}{6}a$;

$\frac{\sqrt{2}}{2}a$;

$\frac{\sqrt{6}+1}{6}a$;

329. Aylana tashqarisidagi nuqtadan 12 ga teng kesuvchi va urinma o'tkazildi. Urinmaning uzunligi kesuvchining aylana ichidagi kesmasining 2/3 qismiga teng. Urinmaning uzunligini toping.

*6;

8;

4;

10;

330. Uchburchak ichida r radiusli uchta aylana shunday joylashganki aylanalarning har biri qolgan ikkitasiga va uchburchakning ikki tomoniga urinadi. Ucburchakning yuzini toping.

*$2r^2\left(2\sqrt{3}+3\right)$;

$r^2\left(2\sqrt{3}+6\right)$;

$4r^2\left(\sqrt{3}+2\right)$;

$6r^2\left(\sqrt{3}+1\right)$;

331. Teng yonli trapetsiyaning asoslari a va b ga yon tomoni esa c ga teng. Uning diagonalani toping.

*$\sqrt{ab+c^2}$;

$\sqrt{ac+b^2}$;

$\sqrt{bc+a^2}$;

$\sqrt{abc}$;

332. Kvadratning har bir tomoniga muntazam uchburchak qurildi. Bunda uchburchaklarning ikki uchi kvadratning ham ikki uchi bo'lib, uchinchi uchi kvadratdan tashqarida bo'ladi. Uchurchaklarning kvadratddan tashqaridagi uchlari tutashtirildi. Hosil bo'lgan to'rtburchak perimetrini berilgan kvadrat perimetriga nisbatini toping.

*$\frac{\sqrt{6}+\sqrt{2}}{2}$;

$\frac{\sqrt{7}+1}{2}$;

$\sqrt{2}$;

$\frac{\sqrt{5}+\sqrt{3}}{2}$;

333. Rombning diagonali uni ikkita muntazam uchburchakka ajratadi. Rombga ichki chizilgan aylana radiusi 2 ga teng bo'lsa, romb tomonini toping.

*$\frac{2\sqrt{3}}{3}$;

$\sqrt{3}$;

1;

2;

334. Bir nuqtadan aylanaga ikkita urinma o'tkazildi. Har bir urinma 12 ga, urinish nuqtalari orasidagi masofa esa 14,4 ga teng bo'lsa, aylananing radiusini toping.

*9;

10;

8;

$8\sqrt{2}$;

335. Asosi 12, balandligi 8 bo'lgan teng yonli uchburchakka aylana ichki chizilgan. Aylanaga o'tkazilgan urinma uchburchakning asosiga parallel. Urinmaning uchburchak ichidagi kesmasini toping.

*3;

2;

$2\sqrt{2}$;

$2\sqrt{3}$;

336. A nuqtadan R radiusli aylanaga ikkita AB va AC urinma o'tkazildi. Agar ABC muntazam uchburchak bo'lsa, uning yuzini toping.

*$\frac{3\sqrt{3}}{4}R^2$;

$\sqrt{3}R^2$;

$\frac{3}{2}R^2$;

$2R^2$;

337. Muntazam ABC uchburchakning AC tomonini K nuqta 2:1 nisbatda, AB tomonini M nuqta 1:2 nisbatda bo'ladi. ABC uchburchakka tashqi chizilgan aylana radiusi 3 ga teng bo'lsa, KM ni toping.

*3;

4;

2;

$2\sqrt{2}$;

338. Yuzi 12 ga balandligi 2 ga teng bo'lgan teng yonli trapetsiyaning yon tomonlari yotgan to'gri chiziqlar perpendikulyar. Trapetsiyaning katta asosini toping.

*8;

10;

9;

$6\sqrt{2}$;

339. Yuzi 12 ga balandligi 2 ga teng bo'lgan teng yonli trapetsiyaning yon tomonlari yotgan to'gri chiziqlar perpendikulyar. Trapetsiyaning kichik asosini toping.

*4;

3;

$3\sqrt{3}$;

$2\sqrt{3}$;

340. Yuzi 12 ga balandligi 2 ga teng bo'lgan teng yonli trapetsiyaning yon tomonlari yotgan to'gri chiziqlar perpendikulyar. Trapetsiyaning perimetrini toping.

*$12 + 4\sqrt{2}$;

$16 + 2\sqrt{2}$;

$10 + 6\sqrt{2}$;

18;

341. Bitta burchagi 60^0 ga teng paralellogramning kichig diagonali $2\sqrt{31}$ ga teng. Diagonallari kesishgan nuqtadan katta tomoniga tushirilgan perpendikulyar $\frac{\sqrt{75}}{2}$ ga teng bo'lsa, paralellogramning katta diagonalini toping.

*$2\sqrt{91}$;

20;

18;

$4\sqrt{31}$;

342. Bitta burchagi 60^0 ga teng paralellogramning kichig diagonali $2\sqrt{31}$ ga teng. Diagonallari kesishgan nuqtadan katta tomoniga tushirilgan perpendikulyar $\frac{\sqrt{75}}{2}$ ga teng bo'lsa, paralellogramning katta tomonini toping.
*12;
15;
9;
$2\sqrt{31}$;
343. Bitta burchagi 60^0 ga teng paralellogramning kichig diagonali $2\sqrt{31}$ ga teng. Diagonallari kesishgan nuqtadan katta tomoniga tushirilgan perpendikulyar $\frac{\sqrt{75}}{2}$ ga teng bo'lsa, paralellogramning kichik tomonini toping.
*10;
8;
12;
$2\sqrt{31}$;
344. Bitta burchagi 30^0 bo'lgan rapetsiyaning yon tomonlari yotgan to'gri chiziqlar perpendikulyar. Uning o'rta chizig'i 10 ga asoslaridan biri 8 ga teng. Trapetsiyaning kichik yon tomonini toping.
*2;
1;
$\sqrt{3}$;
$\sqrt{2}$;
345. Diametri $\sqrt{12}$ bo'lgan aylanaga muntazam uchburchak ichki chizilgan. Ikkinchi bir muntazam uchburchakning tomoni birinchi uchburchakning balandligiga teng. Ikkinchi uchburchakka ichki chizilgan aylana radiusini toping.
*0,75;
1;
$\frac{\sqrt{2}}{2}$;
$\frac{\sqrt{3}}{2}$;
346. Aylananing $AB = a$ va $AC = b$ vatarlari o'tkazildi. Agar AC yoy AB yoydan ikki marta uzun bo'lsa, aylananing radiusini toping.
*$\frac{a^2}{\sqrt{4a^2-b^2}}$;
$\frac{ab}{\sqrt{4a^2-b^2}}$;
$\frac{b^2}{\sqrt{4a^2-b^2}}$;
$\frac{a^2+b^2}{\sqrt{4a^2-b^2}}$;
347. Ikki aylananing umumiy vatari markazlardan 90^0 va 60^0 burchak ostida ko'rinadi. Aylanalar markazlari orasidagi masofa $\sqrt{3}+1$ bo'lsa, kichik aylana radiusini toping.
*$\sqrt{2}$;
1;
2;
$\sqrt{3}$;
348. Ikki aylananing umumiy vatari markazlardan 90^0 va 60^0 burchak ostida ko'rinadi. Aylanalar markazlari orasidagi masofa $\sqrt{3}+1$ bo'lsa, katta aylana radiusini toping.
*2;
1;

$\sqrt{2}$;
$\sqrt{3}$;
349. Katetlari 5 va 12 bo'lgan to'g'ri burchakli uchburchak berildi. Markazi gipotenuzada bo'lgan aylana uninng katta katetiga urinadi va bu katet qarshisidagi uchidan o'tadi. Aylananing radiusini toping.
*$\frac{65}{18}$;
$\frac{32}{9}$;
$\frac{33}{9}$;
5;
350. C burchagi to'g'ri bo'lgan ABC uchburchakning perimetri 72 ga, CK mediana va CM balandliklari ayimasi 7 ga teng. Gipotenuzani toping.
*32;
36;
40;
28;
351. Avtobus avtovokzaldan 40 km uzoqlikdagi aeroportga qarab jo'nadi. Oradan 10 minut o'tganidan keyin avtobus ketidan taksida yo'lovchi jo'nadi. Taksining tezligidan 20 km/soat ortiq. Agar ular aeroportga bir vaqtda yetib kelgan bo'lsa, avtobus yo'lga qancha vaqt (min) sarflagan?
*40;
30;
45;
25;
352. Qo'lyozma ko'chirish uchun birinchi operator ikkinchisiga qaraganda 3 soat kam vaqt sarflaydi. Ular birgalikda ishlab qo'lyozmani 6 soat-u 40 minutda ko'chirib bo'lishdi. Hamma qo'lyozmani ko'chirish uchun birinchi operator qancha vaqt sarflaydi.
*12;
15;
18;
9;
353. Qo'lyozma ko'chirish uchun birinchi operator ikkinchisiga qaraganda 3 soat kam vaqt sarflaydi. Ular birgalikda ishlab qo'lyozmani 6 soat-u 40 minutda ko'chirib bo'lishdi. Hamma qo'lyozmani ko'chirish uchun ikkinchi operator qancha vaqt sarflaydi.
*15;
18;
12;
9;
354. 400 km masofani tezyurar poyezd yuk poezdiga qaraganda 1 soat tezroq o'tdi. Agar yuk poyezdining tezligi tezyurar poyezdnikidan 20 km/soat kam bo'lsa, yuk poyezdining tezligi (km/soat) qanday?
*80;
90;
100;
70;
355. 400 km masofani tezyurar poyezd yuk poezdiga qaraganda 1 soat tezroq o'tdi. Agar yuk poyezdining tezligi tezyurar poyezdnikidan 20 km/soat kam bo'lsa, tezyurar poyezd yo'lga qancha vaqt (soat) sarfladi?
*4;
5;
3;
6;

356. Kema daryo oqimi bo’yicha A bekatdan B bekatga bordi. Kema yarim soat dam olgach orqasiga jo’nadi va A dan chiqqanidan 8 soat keyin yana A bekatga qaytib keldi. A va B bekatlar orasidagi masofa 36 km, daryo oqimining tezligi esa 2 km/soat bo’lsa, kemaning turg’un suvdagi (km/soat) tezligini toping.
*10;
12;
8;
15;
357. Ikki guruh mutaxassislar birgalikda ishlab ma’lum bir ishni 12 kunda tamomladi. Agar guruhlardan biri bu ishni ikkinchisiga qaraganda 10 kun kam vaqtda uddalay olsa, ikkinchi guruh uni necha kunda bajara oladi?
*30;
25;
20;
18;
358. Ikki guruh mutaxassislar birgalikda ishlab ma’lum bir ishni 12 kunda tamomladi. Birinchi guruh bu ishni ikkinchisiga qaraganda 10 kun kam vaqtda uddalay oladi. Shu guruh yolg’iz ishlab ishni necha kunda bajara oladi?
*20;
15;
18;
25;
359. 30 km li masofani velosipedchilardan biri ikkinchisiga qaraganda 20 min tezroq bosib o’tdi. Birinchi velosipedchining tezligi ikkinchisinikidan 3 km/soat ortiq edi. Birinchi velosipedchining tezligi (km/soat) qanday?
*18;
20;
15;
21;
360. 30 km li masofani velosipedchilardan biri ikkinchisiga qaraganda 20 min tezroq bosib o’tdi. Birinchi velosipedchining tezligi ikkinchisinikidan 3 km/soat ortiq edi. Ikkinchi velosipedchi yo’lga qancha vaqt (soat) sarfladi?
*2;
$1\frac{1}{3}$;
$1\frac{2}{3}$;
$2\frac{1}{3}$;
361. Ikkita guruh birgalikda ishlab 6 kunda qoylarga qo’ra qurdi. Bu ishni bajarish uchun birinchi guruhga ikkinchisiga qaraganda 5 kun ortiq talab qilinadi. Birinchi guruh alohida ishlab qo’rani necha kunda bitkazar edi.
*15;
18;
12;
10;
362. Ikkita guruh birgalikda ishlab 6 kunda qoylarga qo’ra qurdi. Bu ishni bajarish uchun birinchi guruhga ikkinchisiga qaraganda 5 kun ortiq talab qilinadi. Ikkinchi guruh alohida ishlab qo’rani necha kunda bitkazar edi.
*10;
8;
12;
15;

363. Vertolyotning havoga nisbatan tezligi 300 km/soat. U 224 km masofani ikki marta uchib o'tdi: birinchi marta shamol yonalishi bo'yicha, ikkinchi marta shamol yo'nalishiga qarshi. Vertolyot shamolga qarshi uchganda shamol yo'nalishi boyicha uchgandagiga qaraganda 6 min ko'p vaqt sarfladi. Shamol tezligini (km/soat) aniqlang.
*20;
24;
18;
15;
364. Vertolyotning havoga nisbatan tezligi 300 km/soat. U 224 km masofani ikki marta uchib o'tdi: birinchi marta shamol yonalishi bo'yicha, ikkinchi marta shamol yo'nalishiga qarshi. Vertolyot shamolga qarshi uchganda shamol yo'nalishi boyicha uchgandagiga qaraganda 6 min ko'p vaqt sarfladi. Vertolyot jami qancha vaqt (soat) uchdi.
*1,5;
1,6;
1,2;
1,4;
365. Velosipedchining 90 km yo'lning birinchi yarmidagi tezligi uning ikkinchi yarmidagi tezligidan 3 km/soat ortiq bo'ldi. Velosipedchi yo'lni 5,5 soatda bosib o'tgan bo'lsa, u yo'lning ikkinchi yarmini qanday tezlikda (km/soat) bosib o'tgan?
*15;
18;
12;
20;
366. Velosipedchining 90 km yo'lning birinchi yarmidagi tezligi uning ikkinchi yarmidagi tezligidan 3 km/soat ortiq bo'ldi. Velosipedchi yo'lni 5,5 soatda bosib o'tgan bo'lsa, u yo'lning birinchi yarmini qancha vaqtda (soat) bosib o'tgan?
*2,5;
3;
2,4;
2,1;
367. Daraxt o'tqaishda birinchi guruh har kuni ikkinchisiga qaraganda 400 tup ortiq daraxt o'tqazib, jami 2700 tup daraxt o'tqazdi. Ikkinchi guruh 2 kun ortiq ishladi va 2500 tup daraxt o'tqazdi. Birinchi guruh necha kun ishladi?
*3;
2;
4;
5;
368. Daraxt o'tqaishda birinchi guruh har kuni ikkinchisiga qaraganda 400 tup ortiq daraxt o'tqazib, jami 2700 tup daraxt o'tqazdi. Ikkinchi guruh 2 kun ortiq ishladi va 2500 tup daraxt o'tqazdi. Ikkinchi guruh kuniga necha tup daraxt ekdi?
*500;
250;
625;
125;
369. Qishloqlar orasidagi 36 km masofani bir velosipedchi ikkinchisidan 1 soat tezroq bosib o'tdi. Birinchi velosipedchining tezligi ikkinchisinikidan 3 km/soat ortiq bo'lsa, birinchi velosipedchining tezligini (km/soat) toping.
*12;
15;

9;
18;
370. Qishloqlar orasidagi 36 km masofani bir velosipedchi ikkinchisidan 1 soat tezroq bosib o'tdi. Birinchi velosipedchining tezligi ikkinchisinikidan 3 km/soat ortiq bo'lsa, ikkinchi velosipedchi qancha vaqt (soat) yo'l yurgan.
*4;
3;
4,5;
3,5;
371. Firma 5400 juft poyafzal tayyorlashi kerak. U kuniga mo'ljaldagidan 30 juft ortiq mahsulot tayyorladi va buyurtmani 9 kun oldin bajardi. Buyurtma necha kunda bajarilgan.
*36;
40;
45;
30;
372. Ikki sayyoh velosipedlarda A qishloqdan B qishloqqa qarab har hil yo'ldan jo'nadi. Birinchisi 30 km, ikkinchisi esa 20 km yurishi kerak edi. Birinchi sayyohning tezligi ikkinchisinikidan 3 km/soat ortiq. Ikkinchi sayyoh B qishloqqa birinchiga qaraganda 20 min oldin yetib keldi. Birinchi sayyoh B ga qancha vaqtda (soat) yetib keldi?
*2 yoki $1\frac{2}{3}$;
2;
$1\frac{2}{3}$;
$1\frac{1}{3}$;
373. Ikki sayyoh velosipedlarda A qishloqdan B qishloqqa qarab har hil yo'ldan jo'nadi. Birinchisi 30 km, ikkinchisi esa 20 km yurishi kerak edi. Birinchi sayyohning tezligi ikkinchisinikidan 3 km/soat ortiq. Ikkinchi sayyoh B qishloqqa birinchiga qaraganda 20 min oldin yetib keldi. Ikkinchi sayyoh B ga qancha vaqtda yetib keldi?
*$1\frac{1}{3}$ yoki $1\frac{2}{3}$;
$1\frac{2}{3}$;
$1\frac{1}{3}$;
2;
374. Ishchilarning ikki guruhi yo'lni ta'mirlashni 4 soatda tugatdilar. Agar avval birinchi guruh yo'lning yarmini, so'ngra esa ikkinchi guruh qolgan qismini tamirlaganda edi, ish 9 soatda tugallangan bo'lar edi. Birinchi guruh tezroq ishlashi ma'lum bo'lsa, ular alohida qancha vaqtda (soat) yo'lni ta'mirlaydi?
*6;
9;
12;
5;
375. Ishchilarning ikki guruhi yo'lni ta'mirlashni 4 soatda tugtdilar. Agar avval birinchi guruh yo'lning yarmini, so'ngra esa ikkinchi guruh qolgan qismini tamirlaganda edi, ish 9 sotda tugallangan bo'lar edi. Birinchi guruh tezroq ishlashi ma'lum bo'lsa, ikkinchi guruh alohida qancha vaqtda (soat) yo'lni ta'mirlaydi?
*12;
9;
15;
6;

376. 60 km masofani bir velosipedchi ikkinchisiga qaraganda 1 soat tezroq bosib o'tdi. Agar birinchi velosipedchining tezligi ikkinchisinikidan 5 km/soat kam bo'lsa, birinchi velosipedchining tezligini (km/soat) toping.
*15;
18;
12;
20;
377. 60 km masofani bir velosipedchi ikkinchisiga qaraganda 1 soat tezroq bosib o'tdi. Agar birinchi velosipedchining tezligi ikkinchisinikidan 5 km/soat kam bo'lsa, ikkinchi velosipedchi yo'lga qancha vaqt sarfladi?
*3;
4;
3,5;
2,5
378. Omonatchi bankga 32000 so‘m pul qo‘ydi. Oradan 3 yil o‘tgach, u o‘ziga tegishli hamma pulni qaytarib oldi. Agar bank yiliga 5% foyda to‘lasa, omonatchi bankdan necha so‘m pul olgan?
*37044;
36568;
38254;
35404;
379. Agar uch xonali sondan 6 ni ayirsak, ayirma 7 ga bo‘linadi, 7 ni ayirsak, ayirma 8 ga bo‘linadi, 8 ni ayirsak, ayirma 9 ga bo‘linadi. Bu sonni toping.
*503;
167;
143;
936;
380. $\overline{aa}$ va $\overline{bb}$ ikki xonali sonlar bo‘lib, $(\overline{aa})^2 + \left(\overline{bb}\right)^2 = 2057$ va $a + b = 5$ bo‘lsa, $a \cdot b$ ni toping.
*4;
8;
15;
6;
381. Ikki xonali son raqamlari kvadratlarining yig‘indisi 13 ga teng. Agar undan 9 ni ayirsak, shu son raqamlarining teskari tartibda yozilgani kelib chiqsa, ikki xonali sonning raqamlari yig‘indisini toping.
*5;
6;
7;
8;
382. Avtomashina Toshkentdan Samarqandga tomon yo‘lga chiqdi. Yo‘lning 2/5 qismini rejadagi tezlikda o‘tgach, tezligini 20% ga oshirdi va Samarqandga mo‘ljaldagidan yarim soat oldin keldi. Avtomashina ikki shahar orasidagi masofani necha soatda o‘tgan?
*4,5;
4;
2,5;
3;
383. Uchta butun son tashkil etgan arifmetik progressiyada birinchi had 1 ga teng. Agar ikkinchi hadga 3 qo‘shilsa, uchinchisi kvadratga ko‘tarilsa, geometrik progressiya hosil bo‘ladi. Uchinchi sonni toping.
*7;
8;
6;

9;
384. Xo‘jayin bir kishini bir yilga yollab, unga 12 so‘m pul va bir chakmon bermoqchi bo‘libdi, lekin ishchi 7 oy ishlagandan keyin xo‘jayin unga 5 so‘m pul va bir chakmon beribdi. Chakmon necha so‘m bo‘lgan.
*4,8;
5,2;
5,5;
5;
385. Talaba besh yilda 31 ta imtihon topshirdi. U har keyingi yilda oldingi yildagiga qaraganda ko‘p imtihon topshirgan. Beshinchi kursda birinchi kursdagidan 3 marta ko‘p imtihon topshirgan bo‘lsa, to‘rtinchi kursda nechta imtihon topshirgan?
*8;
6;
9;
7;
386. 3; 5; 9; 17; 33; 65; . . . ketma-ketlikning dastlabki n ta hadining yig‘indisini toping.
*$2^{n+1} + n - 2$;
$2^n + n - 2$;
$(2^{n-1} + 2) \cdot 2$;
$2n$;
387. 112 soni shunday 3 bo‘lakka bo‘linganki, 2-bo‘lak 1-bo‘lakning 10% ini, 3-bo‘lak 2-sining 20% ini tashkil etadi. O‘rta bo‘lakni toping.
*10;
12;
8;
15;
388. a, b, c - noldan farqli raqamlar uchun $a > b > c$ munosabat o‘rinli. Agar $\overline{abc} + \overline{bca} + \overline{cab} = 999$ tenglik bajarilsa, a ning eng katta qiymati nechaga teng bo‘lishi mumkin?
*6;
7;
4;
5;
389. Teploxod ikki pristan oraligidagi masofani daryo oqimi bo‘yicha 7 soat, oqimga qarshi 9 soatda o‘tadi. Agar oqimning tezligi 2 km/soat bo‘lsa, pristanlar orasidagi masofani (km) aniqlang.
*126;
130;
128;
120;
390. Umumiy bahosi 225 dinor bo‘lgan ikki xil qimmatbaho mo‘ynali teri xalqaro bozorda 40% foydasi bilan sotildi. Agar birinchi xil teridan 25%, ikkinchisidan 50% foyda qilingan bo‘lsa, har bir terining bahosi necha dinor bo‘lgan?
*90; 135
80; 145
100; 125
200; 25
391. Ishchi birinchi kuni o‘ziga topshirilgan butun bir ishning yarmini, ikkinchi kuni qolgan ishning yarmini, uchinchi kuni qolgan ishning yarmini bajardi. U ishni tugatishi uchun to‘rtinchi kuni butun ishning qancha qismini bajarishi kerak?
*0,125;
0,375;

0,25;
0,0625;
392. Barcha ikki xonali sonlar ko‘paytmasidan tashkil topgan ko‘paytmada 7 sonining eng katta darajasini aniqlang.
*15;
13;
14;
16;
393. m dan katta bo‘lmagan juft natural sonlarning yig‘indisi x, m dan katta bo‘lmagan, lekin 10 dan katta bo‘lgan juft sonlarning yig‘indisi y hamda $x + y = 810$ bo‘lsa, m ning barcha qiymatlari yig‘indisini toping.
*81;
420;
210;
83;
394. Zavodning 3 ta sexida 2740 nafar ishchi ishlaydi. Ikkinchi sexda birinchisiga nisbatan 140 ta ko‘p ishchi, uchinchi sexda esa ikkinchisiga nisbatan 1,2 marta ko‘p ishchi ishlaydi. Birinchi sexda qancha ishchi ishlaydi?
*760;
900;
1080;
640;
395. Velosipedchi bir soatda 15,75 km, piyoda esa 4,5 km yo‘l bosadi. Velosipedchining tezligi piyodaning tezligidan necha marta ortiq?
*3,5;
3;
4;
4,5;
396. 117, 177, 237 sonlarini A soniga bo‘lganda mos ravishda 5, 9, 13 qoldiqlar chiqadi. A ning qabul qilishi mumkin bo‘lgan qiymatlari yig‘indisini toping.
*98;
42;
31;
120;
397. Uzunligi 19,8 m bo‘lgan arqon ikki bo‘lakka bo‘lindi. Bo‘laklardan birining uzunligi ikkinchisinikidan 20% ortiq bo‘lsa, kichik bo‘lakning uzunligini (m) toping.
*9;
8,8;
9,6;
10,8;
398. Yo‘lovchi yuqoriga harakatlanib, harakatsiz eskalatorda 3 minutda, harakatlanayotgan eskalatorda 45 sekundda ko‘tariladi. Eskalatorda harakatsiz turgan yo‘lovchi qancha vaqtda (min) ko‘tariladi?
*1;
2,5;
2;
1,5;
399. $2012^{2011^{2010}}$ sonining ohirgi raqamini toping.
*2;
4;
8;
6;

400. x, y butun sonlar uchun $-6 \le x \le 8,\ -9 \le y \le 12$ va $x + y \ne 0$ bo'lsa, $\frac{x-y}{x+y}$ ning eng katta qiymatini toping.
*17;
19;
24;
32;
401. Arifmetik progressiyaning ayirmasiuni toping: $a_n = -\frac{n+1}{4}$;
*-0,25;
0,25;
-0,4;
0,4;
402. Arifmetik progressiyaning ayirmasiuni toping: $a_n = \frac{2\sqrt{3}-5n}{3}$;
*$-1\frac{2}{3}$;
$-1\frac{1}{3}$;
$1\frac{2}{3}$;
$1\frac{1}{3}$;
403. Arifmetik progressiyaning birinchi hadi $-\sqrt{2}$ ga, ayirmasi $1 + \sqrt{2}$ ga teng bo'lsa, uning yettinchi hadini toping.
*$6 + 5\sqrt{2}$;
$7 + 6\sqrt{2}$;
$1 - 5\sqrt{2}$;
$1 - 6\sqrt{2}$;
404. Arifmetik progressiyaning birinchi hadi $3 - \sqrt{5}$ ga, ayirmasi $2\sqrt{5}$ ga teng bo'lsa, uning o'n beshinchi hadini toping.
*$3\left(1 + 9\sqrt{5}\right)$;
$3 + 29\sqrt{5}$;
$45 - 13\sqrt{5}$;
$6\left(7 - 2\sqrt{5}\right)$;
405. Arifmetik progressiyaning 28-hadi $28 + 27q$ ga, ayirmasi $1 + q$ ga teng bo'lsa, uning birinchi hadini toping.
*1;
$-q$;
q;
$1 + q$;
406. Arifmetik progressiyaning birinchi hadi $3 - 7m$ ga, 9-hadi $m - 5$ ga teng bo'lsa, uning ayirmasini toping.
*$m - 1$;
-1;
m;
$m + 1$;
407. Birinchi hadi $5 - \sqrt{2}$ ga, ayirmasi $2\sqrt{2} - 1$ ga teng arifmetik progressiyaning nechanchi hadi $13\sqrt{2} - 2$ ga teng bo'ladi?
*8;
7;
9;
10;
408. Umumiy hadi $a_n = 12 - 3n$ formula bilan berilgan arifmetik progressiyaning nechanchi hadidan boshlab barcha hadlari -41 dan kichik bo'ladi?
*18;
17;
19;

$17\frac{2}{3}$;
409. Umumiy hadi $a_n = 3\sqrt{3} - n\sqrt{3}$ formula bilan berilgan arifmetik progressiyaning nechanchi hadidan boshlab barcha hadlari –7 dan kichik bo'ladi?
*8;
7;
9;
10;
410. Umumiy hadi $a_n = 7n - 121$ formula bilan berilgan arifmetik progressiyaning nechanchi hadidan boshlab barcha hadlari $\sqrt{3}$ dan katta bo'ladi?
*18;
17;
19;
20;
411. 7 ga karrali va 3 ga bo'linmaydigan barcha ikki honali sonlar yig'indisini toping.
*518;
532;
504;
546;
412. 3 ga karrali va 7 ga bo'linmaydigan barcha ikki honali sonlar yig'indisini toping.
*1455;
1434;
1413;
1476;
413. Butun sonlardan tuzilgan arifmetik progressiyada 9-hadni 2-hadga bo'lsak bo'linma 5 ga teng, 13-hadni 6-hadga bo'lsak bo'linma 2 ga, qoldiq esa 5 ga teng. Shu progressiyaning birinchi hadi va ayirmasini toping.
*3, 4;
4, 3;
5, 4;
4, 5;
414. To'rt honali sonning raqamlari arifmetik progressiya tashkil etadi. Uning raqamlari yig'indisi 16 ga teng. Birlar honasidagi raqam yuzlar honasigi raqamdan 4 ga ortiq bo'lsa, sonning ohirgi raqamini toping.
*1;
3;
5;
7;
415. –100 va –78 mos ravishda arifmetik progressiyaning yettinchi va to'qqizinchi hadlari. Uning dastlabki yigirmata hadi yig'indisini toping.
*-1230;
-1241;
-1252;
-1219;
416. Erkin tushayotgan jism birinchi sekundda 4,9 m yo'l bosadi, keying har bir sekundda esa oldingisidan 9,8 m ortiq yo'l bosadi. Tushayotgan jism beshinchi sekundda necha m masofani bosib o'tadi?
*44,1;
49;
53,9;
58,8;
417. Havo vannasini olish yo'li bilan davolanishda birinchi kuni davolanish 15 min davom etadi, keying har bir kunda uni 10 min dan oshirib boriladi. Vanna olish ko'pi bilan 1 soat 45 min davom etishi uchun ko'rsatilgan tartibda havo vannasini olish necha kun davom etadi?
*10;
9;

11;
12;
418. $a_7 + a_8 = 30$ bo'lsa $a_{10} + a_1 + a_{12} + a_7$ ni toping.
*60;
30;
45;
Aniqlab bo'lmaydi;
419. $a_{10} + a_{30} = 120$ bo'lsa a_{20} ni toping.
*60;
120;
30;
Aniqlab bo'lmaydi;
420. Yig'indi 75 ga teng bo'lishi uchun 3 dan boshlab nechta ketma-ket natural sonni qo'shish kerak?
*10;
11;
12;
13;
421. Umumiy hadi $a_n = 4 \cdot 3^{n-1}$ formula bilan berilgan geometrik progressiyaning nechanchi hadidan boshlab barcha hadlari 324 dan katta bo'ladi?
*6;
5;
7;
4;
422. Umumiy hadi $a_n = 3{,}5 \cdot \left(\sqrt{2}\right)^{n-2}$ formula bilan berilgan geometrik progressiyaning nechanchi hadidan boshlab barcha hadlari 14 dan katta bo'ladi?
*7;
6;
8;
5;
423. 1, 3, 9, 27, . . . ketma-ketlikning qaysi nomerli hadlari 729 dan kichik bo'ladi?
*$n \leq 6$;
$n \leq 7$;
$n \leq 8$;
$n \leq 5$;
424. 3, 1,5, 0,75, . . . ketma-ketlikning qaysi nomerli hadlari $\frac{3}{32}$ dan kichik bo'ladi?
*$n \geq 7$;
$n \geq 6$;
$n \geq 8$;
$n \geq 5$;
425. Chekli hadli geometrik progressiyada $b_1 = 5,\ q = 3$ va barcha hadlari yig'indisi 200 bo'lsa, uning hadlari sonini aniqlang.
*4;
5;
6;
3;
426. Chekli hadli geometrik progressiyada $b_1 = -1,\ q = \frac{1}{2}$ va barcha hadlari yig'indisi $-1\frac{63}{64}$ bo'lsa, uning hadlari sonini aniqlang.
*7;
8;
6;
9;

427. O’suvchi geometrik progressiyaning birinchi hadi 4 ga, uchinchi va beshinchi hadlarining yi’g’indisi 80 ga teng. Uning 8-hadini toping.
*512;
1024;
256;
128;
428. Geometrik progressiyaning ikkinchi va uchinchi hadlarining yig’indisi 54 ga, ayirmasi esa 18 ga teng. Birinchi hadni toping.
*64;
36;
18;
9;
429. 6 hadli geometrik progressiyaning dastlabki 3 ta hadi yig’indisi 14 ga, ohirgi uchtasiniki esa 112 ga teng. Uning birinchi hadini toping.
*2;
3;
4;
1;
430. Uchta son ishorasi almashuvchi geometrik progressiya tashkil etadi. Agar ohirgi son 16 ga kamaytirilsa arifmetik progressiya hosil bo’ladi. Agar birinchi son 9 ga teng bo’lsa, ohirgi sonni toping.
*1;
49;
24;
18;
431. Yig’indisi 24 ga teng bo’lgan uchta son arifmetik progressiya tashkil etadi. Agar ikkinchi son 1 ga, ohirgi son esa 14 ga orttirilsa kamayuvchi geometrik progressiya hosil bo’adi. Ohirgi sonni toping.
*-11;
3;
13;
27;
432. Yig’indisi 91 ga teng bo’lgan uchta son kamayuvchi geometrik progressiya tashkil etadi. Agar bu sonlarga mos ravishda 25, 27 va 1 qo’shilsa arifmetik progressiyaning ketma-ket uchta hadi hosil bo’ladi.Geometrik progressiyaning 4-hadini toping.
*$\frac{7}{9}$;
189;
$\frac{7}{27}$;
63;
433. Yig’indisi 31 bo’lgan uchta son geometrik progressiyaning ketma-ket uchta hadidan iborat. Bu sonlarni mos ravishda arifmetik progressiyaning 1-, 2- va 7- hadi deyish mumkin. Arifmetik progressiyaning ayirmasini toping.
*4;
3;
5;
2;
434. Ushbu 131415…6162 sonning raqamlari yig’indisini toping
*390
385
380
375
435. Ushbu 262728…7475 sonning raqamlari yig’indisini toping
*455
460
465

470

436. $\overline{ab} + c = \overline{def}$ bo'lsa ($\overline{ab}$ – ikki honali, c – bir honali, $\overline{def}$ – uch honali son) $2a + 2d$ =?

*20

18

16

Aniqlab bo'lmaydi

437. $\overline{ab} + \overline{cd} = \overline{efk}$ bo'lsa ($\overline{ab}$, $\overline{cd}$ – ikki honali, $\overline{efk}$ – uch honali son) $2a + e$ =?

*Aniqlab bo'maydi

10

9

8

438. 5^{63} ni 9 ga bo'lganda qoldiq necha bo'ladi?

*8

7

6

5

439. 2015^{2015} ni 7 ga bo'lganda qoldiq necha bo'ladi?

*6

1

5

4

440. $5^8 + 5^{10}$ yig'indining natural bo'luvchilari sonini toping

*36

34

32

30

441. Hisoblang: $1 + \frac{1}{3+\frac{1}{2+\frac{1}{4}}}$;

*$\frac{40}{31}$;

$\frac{37}{33}$;

$\frac{41}{35}$;

$\frac{43}{37}$;

442. Hisoblang: $\frac{2}{3+\frac{1}{4+\frac{2}{5}}}$;

*$\frac{44}{71}$;

$\frac{37}{61}$;

$\frac{35}{51}$;

$\frac{31}{41}$;

443. Noto'g'ri mulohazani aniqlang

*4 ga va 6 ga bo'lingan son 24 ga ham bo'linadi

3 ga va 5 ga bo'lingan son 15 ga ham bo'linadi

3 ga va 4 ga bo'lingan son 12 ga ham bo'linadi

4 ga va 9 ga bo'lingan son 36 ga ham bo'linadi

444. Noto'g'ri mulohazani aniqlang

*Tub son ihtiyoriy natural son bilan o'zaro tub

Toq sonning ihtiyoriy darajaga oshirsak toq son hosil bo'ladi

Juft sonning ihtiyoriy darajaga oshirsak 4 ga karrali son hosil bo'ladi

Ohirgi uch honali qismi 4ga bo'lingan sonning o'zi ham 4 ga bo'linadi.

445. Ifodani soddalashtiring: $\frac{x-10\sqrt{x}+25}{3\sqrt{x}+12}:\frac{2\sqrt{x}-10}{x-16}$;

*$\frac{x-9\sqrt{x}+20}{6}$;

$\frac{x+\sqrt{x}}{6}$;

$\frac{x+\sqrt{x}-2}{6}$;

$\frac{x+2\sqrt{x}}{6}$;

446. Ifodani soddalashtiring: $\frac{1-a}{4\sqrt{a}+8\sqrt{b}}\cdot\frac{a+4b+4\sqrt{ab}}{3-3\sqrt{a}}$;

*$\frac{(1+\sqrt{a})(\sqrt{a}+2\sqrt{b})}{12}$;

$\frac{(1-\sqrt{a})(\sqrt{a}+2\sqrt{b})}{12}$;

$\frac{(1+\sqrt{a})(\sqrt{a}-2\sqrt{b})}{12}$;

$\frac{(1-\sqrt{a})(\sqrt{a}-2\sqrt{b})}{12}$;

447. Ifodani soddalashtiring: $\frac{c-25}{36+c+12\sqrt{c}}\cdot\frac{3\sqrt{c}+18}{2\sqrt{c}+10}$;

*$\frac{3\sqrt{c}-15}{12+2\sqrt{c}}$;

$\frac{c+2\sqrt{c}-4}{12+2\sqrt{c}}$;

$\frac{5}{12+2\sqrt{c}}$;

$\frac{5\sqrt{c}+5}{12+2\sqrt{c}}$;

448. Ifodani soddalashtiring: $\frac{5\sqrt{m}-10\sqrt{n}}{\sqrt{m}-5}:\frac{4n-4\sqrt{mn}+m}{15-3\sqrt{m}}$;

*$\frac{5}{2\sqrt{n}-\sqrt{m}}$;

$\frac{5}{\sqrt{m}-2\sqrt{n}}$;

$\frac{\sqrt{n}+2}{2\sqrt{n}-\sqrt{m}}$;

$\frac{\sqrt{n}-5}{\sqrt{m}-2\sqrt{n}}$;

449. Ifodani soddalashtiring: $\left(2+\frac{\sqrt{t}}{\sqrt{t}+1}\right)\cdot\frac{3t+3\sqrt{t}}{12\sqrt{t}+8}$;

*$\frac{3\sqrt{t}}{4}$;

$\frac{1+\sqrt{t}}{4}$;

$\frac{3}{\sqrt{t}+1}$;

$\frac{1}{4}$;

450. Hisoblang: $\frac{2+\sqrt{3}}{\sqrt{2}+\sqrt{2+\sqrt{3}}}+\frac{2-\sqrt{3}}{\sqrt{2}-\sqrt{2-\sqrt{3}}}$;

*$\sqrt{2}$;

$\sqrt{3}$;

1;

$\sqrt{2+\sqrt{3}}$;

451. Hisoblang: $\sqrt{2}\left(\sqrt{8+\sqrt{2}\cdot\sqrt{9+\sqrt{17}}}-\sqrt{8-\sqrt{2}\cdot\sqrt{9-\sqrt{17}}}\right)$;

*2;

1;

$\sqrt{17}$;

$2\sqrt{17}$;

452. Sonlarni o’sish tartibida joylashtiring: $\frac{\pi}{2};\ \sqrt[5]{-12};\ 2;\ \sqrt[6]{70};$

*$\sqrt[5]{-12};\ \frac{\pi}{2};\ 2;\ \sqrt[6]{70};$

$\sqrt[5]{-12};\ \frac{\pi}{2};\ \sqrt[6]{70};\ 2;$

$\sqrt[5]{-12};\ 2;\ \frac{\pi}{2};\ \sqrt[6]{70};$

$\sqrt[5]{-12};\ 2;\ \sqrt[6]{70};\ \frac{\pi}{2};$

453. Sonlarni o’sish tartibida joylashtiring: $\frac{3}{\pi};\ \sqrt[7]{\pi};\ 1;\ \sqrt[5]{-\pi};$

*$\sqrt[5]{-\pi};\ \frac{3}{\pi};\ 1;\ \sqrt[7]{\pi};$

$\sqrt[5]{-\pi};\ 1;\ \frac{3}{\pi};\ \sqrt[7]{\pi};$

$\sqrt[5]{-\pi};\ \frac{3}{\pi};\ \sqrt[7]{\pi};\ 1;$

$\sqrt[5]{-\pi};\ 1;\ \sqrt[7]{\pi};\ \frac{3}{\pi};$

454. Sonlarni o’sish tartibida joylashtiring: $\sqrt{2\pi};\ \frac{\pi}{3};\ 2{,}5;\ \sqrt[3]{-2};$

*$\sqrt[3]{-2};\ \frac{\pi}{3};\ 2{,}5;\ \sqrt{2\pi};$

$\sqrt[3]{-2};\ 2{,}5;\ \frac{\pi}{3};\ \sqrt{2\pi};$

$\sqrt[3]{-2};\ 2{,}5;\ \sqrt{2\pi};\ \frac{\pi}{3};$

$\sqrt[3]{-2};\ \frac{\pi}{3};\ \sqrt{2\pi};\ 2{,}5;$

455. Sonlarni o’sish tartibida joylashtiring: $2\pi;\ \sqrt[5]{-0{,}5};\ 0;\ \sqrt[3]{200};$

*$\sqrt[5]{-0{,}5};\ 0;\ \sqrt[3]{200};\ 2\pi;$

$\sqrt[5]{-0{,}5};\ \sqrt[3]{200};\ 0;\ 2\pi;$

$\sqrt[5]{-0{,}5};\ 0;\ 2\pi;\ \sqrt[3]{200};$

$\sqrt[5]{-0{,}5};\ 2\pi;\ 0;\ \sqrt[3]{200};$

56. Ifodani soddalashtiring: $\frac{\left(\sqrt[4]{m}+\sqrt[4]{n}\right)^2+\left(\sqrt[4]{m}-\sqrt[4]{n}\right)^2}{2(m-n)}:\frac{1}{\sqrt{m^3}-\sqrt{n^3}}-3\sqrt{mn};$

*$\left(\sqrt{n}-\sqrt{m}\right)^2;$

$m+n;$

$\left(\sqrt{n}+\sqrt{m}\right)^2;$

$m-n;$

457. Ifodani soddalashtiring: $\frac{a^{3/2}-b^{3/2}}{a^{1/2}+b^{1/2}}\cdot\frac{a-b}{a+a^{1/2}b^{1/2}+b}+2a^{1/2}b^{1/2};$

*$a+b;$

$\left(\sqrt{a}-\sqrt{b}\right)^2;$

$\left(\sqrt{b}+\sqrt{a}\right)^2;$

$a-b;$

458. Ifodani soddalashtiring: $\left(\frac{q^{1/2}}{p-p^{1/2}q^{1/2}}+\frac{p^{1/2}}{q-p^{1/2}q^{1/2}}\right)\cdot\frac{pq^{1/2}+p^{1/2}q}{p-q};$

*$\frac{\sqrt{p}+\sqrt{q}}{\sqrt{q}-\sqrt{p}};$

$1;$

$\sqrt{p}+\sqrt{q};$

$\sqrt{p}-\sqrt{q};$

459. Kasr mahrajini irratsionallikdan qutqaring: $\frac{1}{\sqrt{2}-\sqrt{5}+\sqrt{3}};$

*$\frac{2\sqrt{3}+3\sqrt{2}+\sqrt{30}}{12};$

$\frac{3\sqrt{3}+2\sqrt{2}+2\sqrt{5}}{12};$

$\frac{\sqrt{3}+\sqrt{2}+\sqrt{30}}{12};$

$\frac{\sqrt{3}+4\sqrt{2}+2\sqrt{5}}{12}$;

460. Kasr mahrajini irratsionallikdan qutqaring: $\frac{1}{\sqrt{3}+2\sqrt{2}+\sqrt{5}}$;

*$\frac{3\sqrt{5}+5\sqrt{3}-2\sqrt{30}}{30}$;

$\frac{2\sqrt{5}+4\sqrt{3}-\sqrt{30}}{30}$;

$\frac{4\sqrt{5}+4\sqrt{3}+\sqrt{30}}{30}$;

$\frac{\sqrt{5}+\sqrt{3}-\sqrt{30}}{30}$;

461. Kasr mahrajini irratsionallikdan qutqaring: $\frac{1}{2+\sqrt[3]{3}}$;

*$\frac{4-2\sqrt[3]{3}+\sqrt[3]{9}}{11}$;

$\frac{6-\sqrt[3]{3}+\sqrt[3]{9}}{5}$;

$\frac{7-4\sqrt[3]{3}}{5}$;

$\frac{4+2\sqrt[3]{3}+\sqrt[3]{18}}{11}$;

462. Kasr mahrajini irratsionallikdan qutqaring: $\frac{1}{3-\sqrt[3]{2}}$;

*$\frac{9+3\sqrt[3]{2}+\sqrt[3]{4}}{25}$;

$\frac{11+3\sqrt[3]{2}}{25}$;

$\frac{11-\sqrt[3]{4}}{29}$;

$\frac{9-6\sqrt[3]{2}+\sqrt[3]{4}}{29}$;

463. Kasr mahrajini irratsionallikdan qutqaring: $\frac{1}{\sqrt[3]{9}+\sqrt[3]{4}+\sqrt[3]{6}}$;

*$\sqrt[3]{3}-\sqrt[3]{2}$;

$\sqrt[3]{3}+\sqrt[3]{2}$;

$\frac{\sqrt[3]{3}-\sqrt[3]{2}}{5}$;

$\frac{\sqrt[3]{3}+\sqrt[3]{2}}{5}$;

464. Kasr mahrajini irratsionallikdan qutqaring: $\frac{1}{\sqrt[3]{9}+2\sqrt[3]{2}-\sqrt[3]{12}}$;

*$\frac{\sqrt[3]{3}+\sqrt[3]{4}}{7}$;

$\sqrt[3]{3}+\sqrt[3]{4}$;

$\sqrt[3]{3}-\sqrt[3]{4}$;

$\frac{\sqrt[3]{3}-\sqrt[3]{2}}{7}$;

465. Ifodani soddalashtiring: $\frac{b+\sqrt{b}}{\sqrt[3]{b}-\sqrt{b}+\sqrt[3]{b^2}}+\frac{\sqrt[3]{b}-\sqrt[3]{b^2}}{\sqrt[6]{b}-\sqrt[3]{b}}-2\sqrt[3]{b}$;

*$2\sqrt[6]{b}$;

$2\sqrt[3]{b}$;

0;

$2\sqrt[6]{b}-2\sqrt[3]{b}$;

466. Ifodani soddalashtiring: $\frac{b-\sqrt{b}}{\sqrt[3]{b}+\sqrt{b}+\sqrt[3]{b^2}}+\frac{\sqrt[3]{b}-\sqrt[3]{b^2}}{\sqrt[6]{b}+\sqrt[3]{b}}-2\sqrt[3]{b}$;

*

$-2\sqrt[3]{b}$;

$2\sqrt[6]{b}$;

0;

$2\sqrt[6]{b}-2\sqrt[3]{b}$;

467. x ning qanday qiymatida $Q(x) = x^4 + x^3 - 6x^2 + 12x - 9$ ko'phadning qiymatini biror sonning kubi shaklida tasvirlash mumkin bo'ladi?
*± 1;
1;
–1;
2;
468. $4^x + 4^{-x} = 12$ bo'lsa $4^{2x} + 4^{-2x} =$?
*142
144
146
148
469. $9^x + 9^{-x} = 51$ bo'lsa $3^x - 3^{-x} =$?
*± 7;
7
–7
49
70. $2^x + 2^{-x} = 8$ bo'lsa $8^x + 8^{-x} =$?
*488
486
484
482
471. $a + \frac{2}{a} = 11$ bo'lsa, $\frac{a^4+4}{3a^2} =$?
*39;
37;
35;
33;
472. $3a - \frac{1}{a} = 7$ bo'lsa, $\frac{9a^4+1}{5a^2} =$?
*11;
12;
13;
14;
473. $a - \frac{2}{a} = 4$ bo'lsa, $\frac{a^9-8}{4a^3} =$?
*22;
20;
18;
16;
474. Tenglamaning ildizlari o'rta arifmetigini toping; $\frac{4}{x} - \frac{x+8}{2x} = \frac{5}{6}$;
*$\emptyset$;
-6;
6;
0;
475. Tenglamaning ildizlari o'rta arifmetigini toping; $\frac{1}{2x} + \frac{x}{x+1} = \frac{1}{2}$;
*$\emptyset$;
-1;
1;
0;
476. Tenglamaning ildizlari o'rta arifmetigini toping; $\frac{3}{x+2} + \frac{x}{x-2} = 1$;
*0,2;
0;
0,5;

∅;
477. Tenglamaning ildizlari o’rta arifmetigini toping; $\frac{2x}{x-1}+\frac{3}{x+1}=2$;
*0,2;
0;
0,5;
∅;
478. Tengsizlikni yeching; $\sqrt{x^2-4}-\sqrt{x-2}\le\sqrt{x^2-4x+4}$;
*$[4{,}25;\ \infty)\cup\{2\}$;
$[2;\ \infty)$;
$[4{,}25;\ \infty)$;
$[2{,}25;\ \infty)\cup\{2\}$;
479. Tengsizlikni yeching; $\sqrt{x^2-9}+\sqrt{x+3}\ge\sqrt{x^2+6x+9}$;
*$[9{,}25;\ \infty)\cup\{-3\}$;
$[3;\ \infty)$;
$[9{,}25;\ \infty)$;
$[3;\ \infty)\cup\{-3\}$;
480. Tengsizlik $(0;10)$ intervalda nechta butun yechimga ega? $\frac{\sqrt{x^2-5x}-4x+26}{7-x}>2$;
*2;
4;
6;
8;
481. Tengsizlik $(0;10)$ intervalda nechta butun yechimga ega? $\frac{\sqrt{x^2+5x}-4x-6}{x-2}<-2$;
*7;
8;
9;
6;
482. Tengsizlik $(0;10)$ intervalda nechta butun yechimga ega? $\left(\sqrt{6x+5}-1\right)^5\ge(6x-4)^{5/2}$;
*9;
7;
5;
3;
483. Tengsizlik $(0;10)$ intervalda nechta butun yechimga ega? $\sqrt{\sqrt{x}+2}-\sqrt{\sqrt{x}-1}\ge1$;
*4;
6;
8;
2;
484. $\begin{cases}\sqrt[4]{x}-\sqrt[4]{y}=1\\ \sqrt{xy}=4\end{cases}$ bo’lsa, $x=$?
*16;
1 yoki 16;
1;
Aniqlab bo’lmaydi.
485. $\begin{cases}\sqrt{\frac{x+3y}{y+5}}+2=3\sqrt{\frac{y+5}{x+3y}}\\ xy+2x=13-4y\end{cases}$ bo’lsa, $x=$?;
*3 yoki 2;
3;
2;
Aniqlab bo’lmaydi;

486. $\begin{cases} \sqrt{\frac{x+y}{x-y}} + 3\sqrt{\frac{x-y}{x+y}} = 4 \\ x^2 + 4x - y^2 - 3y = 0 \end{cases}$ bo'lsa, $y - x =$?;

*4 yoki $\frac{11}{9}$;

$\frac{11}{9}$;

4;

0;

487. $\begin{cases} \sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = \frac{3}{\sqrt{2}} \\ \sqrt{x} + \sqrt{y} = \sqrt{2} + 1 \end{cases}$ bo'lsa, $y - x =$?;

*1 yoki –1;

1;

–1;

0;

488. $\begin{cases} \sqrt{\frac{y}{x}} - 2\sqrt{\frac{x}{y}} = 1 \\ \sqrt{5x + y} + \sqrt{5x - y} = 4 \end{cases}$ bo'lsa, $y - x =$?;

*3;

0 yoki 3;

0;

Aniqlab bo'lmaydi;

489. $\begin{cases} \sqrt{x} + \sqrt{y} + \frac{1}{\sqrt{x}+\sqrt{y}} = \frac{10}{3} \\ x + 2y = 9 \end{cases}$ bo'lsa, $y - x =$?;

*–9 yoki 3;

3;

–9;

5;

490. $x_n = n^2 + 1$ formula bilan berilgan ketma-ketlikning dastlabki uchta hadining yig'indisini toping

*17;

15;

19;

21;

491. $x_n = -n^3 + 5$ formula bilan berilgan ketma-ketlikning dastlabki uchta hadining yig'indisini toping

*–21;

–17;

–25;

–27;

492. $y_n = -n^3 + 10$ formula bilan berilgan ketma-ketlikning dastlabki uchta hadining yig'indisini toping

*–6;

–13;

0;

–1;

493. $x_n = n^2 - 15$ formula bilan berilgan ketma-ketlikning dastlabki uchta hadining yig'indisini toping

*–31;

–35;

–27;

–17;

494. Ketma-ketlikning umumiy hadi formulasini aniqlang: 2, 5, 10, 17, 26, . . .

*$x_n = n^2 + 1$;

$x_n = 3n - 1$;

$x_n = 2n^2 - 3n + 3$;

$x_n = 3n^2 - 6n + 5$;
495. –240 soni $x_n = -n^5 + 3$ kerma-ketlikning nechanchi hadi?
*3;
2;
4;
Hadi emas;
496. 1,8 soni $x_n = \frac{n^2+4n+45}{n^2+25}$ kerma-ketlikning nechanchi hadi?
*5;
0;
3;
8;
497. –40 soni $x_n = n^2 + 15n + 16$ kerma-ketlikning nechanchi hadi?
*Hadi emas;
7;
8;
–7;
498. $x_1 = 1,\ x_n = -x_{n-1} + 5$ ketmaketlikning 3-hadini aniqlang
*1;
4;
5;
–4;
499. Tengsizlikni yeching $\frac{1}{x+1} + \frac{2}{x+3} > \frac{3}{x+2}$;
*$(-3;\ -2) \cup (-1; 1)$;
$(-\infty;\ -2) \cup (-1; 1)$;
$(-\infty;\ -3) \cup (-2;\ -1) \cup (1; \infty)$;
$(-1;\ 1) \cup (1; \infty)$;
500. Tengsizlikni yeching $\frac{2}{x-1} - \frac{1}{x+1} > -3$;
*$(-\infty;\ -1) \cup \left(-\frac{1}{3};\ 0\right) \cup (1; \infty)$;
$\left(-1;\ -\frac{1}{3}\right) \cup (0;\ 1)$;
$(-2;\ -1) \cup (1; \infty)$;
$(-\infty;\ -3) \cup (-2;\ -1)$;