

8-Mavzu. Ildizlar

1. Hisoblang: $70 \cdot 10^{-5} + 1,8 \cdot 10^{-4}$

A) $8,8 \cdot 10^{-4}$ B) $88 \cdot 10^{-6}$ C) $0,88 \cdot 10^{-1}$ D) $8,8 \cdot 10^{-3}$

2. Quyidagilardan qaysilari ratsional son emas?

I. $2\sqrt{3} \cdot 3\sqrt{12}$ II. $3\sqrt{3} + 2\sqrt{12}$

III. $5\sqrt{2} \cdot \sqrt{32}$ IV. $4\sqrt{5} - 3\sqrt{5}$

A) I va II B) I va III C) II va IV D) II va III

3. $\frac{3}{4} \cdot \sqrt{32} \cdot \frac{2}{3} \cdot \sqrt{18}$ ifodaning qiymatini toping.

A) 24 B) 12 C) 6 D) 12,5

4. Hisoblang: $\sqrt{3}\sqrt{27} - \frac{\sqrt{125}}{\sqrt{5}}$

A) -16 B) -1 C) 5 D) 4

5. $a = \sqrt{8}, b = 1,3(23), c = -\frac{200}{201}, d = 1 + \sqrt{5}$ sonlardan qaysilari irratsional?

A) a, b, d B) a, d C) a, c D) b

6. Qaysi javobda ma'noga ega ifoda berilgan?

A) $\sqrt{-9^2}$ B) $\frac{15}{\frac{1}{7} \cdot 7 - \frac{1}{49}}$ C) $(32 - 2^5)^0$ D) $-\sqrt[3]{-\sqrt{7}}$

7. $a = 5\sqrt{2}, b = 4\sqrt{3}, c = 3\sqrt{6}$ sonlarini o'sish tartibida joylashtiring.

A) $a < b < c$ B) $c < b < a$ C) $b < a < c$ D) $a < c < b$

8. Hisoblang: $\sqrt{12\frac{1}{4}} + 3 \cdot \sqrt{0,25}$

A) 3 B) 4 C) 5 D) 6

9. O'zaro teskari sonlarni aniqlang:

1) $\frac{\sqrt{7}}{2}$ va $\frac{2\sqrt{7}}{7}$ 2) $\sqrt{6} - \sqrt{5}$ va $\sqrt{6} + \sqrt{5}$ 3) $\frac{2\sqrt{5}}{9}$ va $\frac{9\sqrt{5}}{10}$ 4) $\sqrt{3} - 1$ va $\sqrt{3} + 1$

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

10. $b < 0$ bo'lsa, $\sqrt{\frac{36b^2}{c^8}}$ ifodani soddalashtiring.

A) $\frac{6b}{c^4}$ B) $-\frac{6b}{c^4}$ C) $-\frac{36b}{c^4}$ D) $\frac{36b}{c^4}$

11. Agar $a > b > c > 0$ bo'lsa, $|b - a| + |b + c| - |a - c|$ ni soddalashtiring.

A) $2c - 2a$ B) $2c - 2b$ C) $2c$ D) $2a - 2c$

12. a va b ning qanday qiymatlarida $\sqrt{-ab} = \sqrt{a} \cdot \sqrt{-b}$ tenglik ayniyat bo'ladi?

A) $a > 0, b > 0$ B) $a \leq 0, b > 0$ C) $a < 0, b < 0$ D) $a \geq 0, b \leq 0$

13. Hisoblang: $[\sqrt{1}] + [\sqrt{2}] + [\sqrt{3}] + \dots + [\sqrt{10}]$ (bunda $[a]$ – a sonining butun qismi).

A) 15 B) 19 C) 18 D) 17

14. $\sqrt{14} \approx 3,74$ dan foydalanib, $\sqrt{\frac{7}{2}}$ ning taqribiy qiymatini toping.

A) 1,32 B) 1,86 C) 1,87 D) 1,88

15. Maxrajni irratsionallikdan qutqaring: $\frac{6}{\sqrt{15}}$

A) $6\sqrt{15}$ B) $\frac{2\sqrt{3}}{\sqrt{5}}$ C) $\frac{2\sqrt{15}}{5}$ D) $\frac{\sqrt{15}}{6}$

16. Hisoblang: $(\sqrt{12} - 4)(4 + 2\sqrt{3})$

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

17. $\sqrt{3}$ soni $2 - \sqrt{3}$ sonidan necha marta katta?

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

18. Ifodaning qiymatini toping: $\frac{46}{5-\sqrt{2}} - \frac{12}{4-2\sqrt{3}} - \sqrt{2}(2 - 3\sqrt{6})$

A) -2 B) $-2 - 12\sqrt{3}$ C) 2 D) 0

19. Soddalashtiring: $\frac{\sqrt{ab} + b\sqrt{a:b}}{\sqrt{-a}}$

A) -1 B) 0 C) $2\sqrt{-b}$ D) $\sqrt{-a} + \sqrt{-b}$

20. Kasrni qisqartiring: $\frac{t+2\sqrt{t}}{4-t}$

A) $\frac{t}{2-t}$ B) $\frac{\sqrt{t}}{2-t}$ C) $\frac{-\sqrt{t}}{\sqrt{t}+2}$ D) $\frac{-\sqrt{t}}{\sqrt{t}-2}$

21. Ifodani soddalashtiring: $\left(\frac{\sqrt{x^3-1}}{\sqrt{x-1}} + \sqrt{x}\right) : \frac{x-1}{\sqrt{x-1}}$

A) $\sqrt{x} - 1$ B) $\sqrt{x} + 1$ C) $(\sqrt{x} + 1)^2$ D) $\frac{\sqrt{x+1}}{\sqrt{x-1}}$

22. $\frac{3xy-y^2}{x-y} - \frac{y\sqrt{y}}{\sqrt{x}-\sqrt{y}} - \frac{y\sqrt{x}}{\sqrt{x}+\sqrt{y}}$ ni soddalashtiring.

A) $2y$ B) $3y$ C) $-2y$ D) y

23. Hisoblang: $\sqrt{17+12\sqrt{2}} - 2\sqrt{3-2\sqrt{2}}$

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

24. Hisoblang: $\sqrt{16+\sqrt{31}} \cdot \sqrt{16-\sqrt{\frac{\sqrt{882}}{\sqrt{2}}+\frac{\sqrt{200}}{\sqrt{2}}}}$

A) 0 B) 15 C) 47 D) 16

25. Soddashtiring: $\sqrt{11-4\sqrt{4+2\sqrt{3}}}$

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

26. Soddashtiring: $\sqrt{\sqrt{2a}+\frac{1}{\sqrt{2}}+\frac{a}{\sqrt{2}}}\cdot\sqrt[4]{2}$

A) $\frac{\sqrt{a}}{2}+1$ B) $\sqrt{\frac{a}{2}}+1$ C) $\sqrt{a}+1$ D) $a+\sqrt[4]{2}$

27. Ifodaning qiymatini toping: $\frac{0,5\sqrt{10}-1}{2-\sqrt{10}}$

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

28. Hisoblang: $\frac{\sqrt[3]{40}}{\sqrt[3]{625}}$

A) 0,2 B) 0,4 C) 0,5 D) 0,8

29. Hisoblang: $\sqrt[3]{(-5)^3 \cdot 2^9}$

A) -80 B) -40 C) 80 D) 40

30. $\sqrt[3]{2\sqrt{\sqrt{2}}}\cdot\sqrt{2}$ ni hisoblang va natijani ratsional ko'rsatkichli daraja shaklida tasvirlang.

A) $2^{-\frac{5}{12}}$ B) $2^{-\frac{7}{12}}$ C) $2^{-\frac{3}{4}}$ D) $2^{-\frac{1}{12}}$

31. Hisoblang: $\left(\sqrt[6]{5^7} \cdot \sqrt[7]{5^3} \cdot \sqrt[7]{5^{-2}}\right)^{2\frac{1}{10}} - 1$

A) 4 B) 1 C) 0 D) 24

32. $\frac{\left(\frac{1}{343}\right)^{-\frac{1}{3}} + \left(\frac{1}{8}\right)^{-\frac{1}{3}}}{\sqrt[3]{18\sqrt{144}}}$ ni hisoblang.

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

33. Hisoblang: $\sqrt[5]{\frac{3^{10}-6^{10}}{6^{10}-12^{10}}}$

A) -25 B) -0,5 C) 0,25 D) 2

34. Hisoblang: $10\sqrt[3]{108} - 7\sqrt[3]{256} + 18\sqrt[3]{32}$

A) $-\sqrt[4]{2}$ B) 0 C) $2\sqrt[3]{4}$ D) $-2\sqrt[3]{4}$

35. Hisoblang: $(0,125)^{\frac{1}{3}} + \left(\frac{3}{4}\right)^2 - (1,85)^0$

A) $\frac{25}{16}$ B) $\frac{16}{25}$ C) $\frac{9}{16}$ D) $\frac{1}{16}$

36. Soddalashtiring: $\frac{a^{\frac{4}{3}} - a^{-\frac{2}{3}}}{\frac{1}{a^{\frac{3}{3}} - a^{-\frac{2}{3}}}}$

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

37. Hisoblang: $\sqrt[4]{\sqrt[3]{25}} \cdot \sqrt[6]{5^5} - 125^{\frac{1}{3}}$

A) 1 B) 0 C) 10 D) -4

38. $a = \sqrt{3}$; $b = \sqrt[3]{4}$ va $c = \sqrt[6]{17}$ sonlarini kamayish tartibida joylashtiring.

A) $a; b; c$ B) $a; c; b$ C) $b; a; c$ D) $c; a; b$

39. $\frac{a^{\frac{2}{3}} + a^{\frac{1}{6}}}{\frac{1}{a^{\frac{3}{3}} - a^{\frac{6}{6}} + 1}} - \frac{a^{\frac{2}{3}} - a^{\frac{1}{6}}}{\frac{1}{a^{\frac{3}{3}} + a^{\frac{6}{6}} + 1}} = ?$

A) $2a^{\frac{1}{3}}$ B) $2a^{\frac{1}{6}}$ C) 2 D) $-2a^{\frac{1}{3}}$

40. Ifodani soddalashtiring: $\frac{a^{-\frac{7}{2}} - \frac{1}{a^2}}{a^{-\frac{5}{2}} - a^{-1}} + a^2 - \frac{1}{a} - 1$

A) $a + 1$ B) $a - 1$ C) $1 - a^2$ D) $a^2 - 1$

41. $\frac{a - \sqrt[3]{a}}{\sqrt[3]{a+1}} + \frac{\sqrt[3]{a^4} - \sqrt[3]{a}}{\sqrt[3]{a} - (\sqrt[3]{a+1})^2}$ ifodani soddalashtiring.

A) $2\sqrt[3]{a}(\sqrt[3]{a} - 1)$ B) $2\sqrt[3]{a^2}$ C) 0 D) $-2\sqrt[3]{a}$

42. Soddalashtiring: $\sqrt[4]{97 + 56\sqrt{3}}$

A) $\sqrt{3} + 2$ B) $\sqrt{2} + 3$ C) $\sqrt{2} + \sqrt{3}$ D) $7 + 4\sqrt{3}$

43. Maxrajni irratsionallikdan qutqaring: $\frac{1}{1+\sqrt{5}-\sqrt{6}}$

A) $\frac{5-\sqrt{5}+\sqrt{30}}{10}$ B) $\frac{5+\sqrt{6}+\sqrt{30}}{5}$ C) $\frac{5+\sqrt{5}+\sqrt{30}}{10}$ D) $\frac{\sqrt{5}-5+\sqrt{30}}{2}$

44. Soddalashtiring: $\frac{\sqrt{15}+\sqrt{3}}{\sqrt{15}-\sqrt{5}+\sqrt{3}-1}$

A) $\frac{3+\sqrt{3}}{2}$ B) $\sqrt{15}$ C) $\frac{\sqrt{3}}{2}$ D) $\sqrt{15} + \sqrt{3}$

45. Maxrajni irratsionallikdan qutqaring: $\frac{56}{12-3\sqrt{2}-4\sqrt{5}+\sqrt{10}}$

A) $56(4 - \sqrt{2})$ B) $56(\sqrt{5} - 3)$ C) $(4 - \sqrt{2})(\sqrt{5} - 3)$ D) $(3 + \sqrt{5})(4 + \sqrt{2})$

46. Hisoblang:

$$\sqrt{2 - \sqrt{2 + \sqrt{2 + \sqrt{3}}}} \cdot \sqrt{2 + \sqrt{2 + \sqrt{2 + \sqrt{3}}}} \cdot \sqrt{2 + \sqrt{2 + \sqrt{3}}} \cdot \sqrt{2 + \sqrt{3}}$$

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

47. Hisoblang: $\frac{1}{\sqrt{1+\sqrt{2}}} + \frac{1}{\sqrt{2+\sqrt{3}}} + \frac{1}{\sqrt{3+\sqrt{4}}} + \dots + \frac{1}{\sqrt{99+\sqrt{100}}}$

A) 8 B) 9 C) 10 D) 11

48. Soddalashtiring: $\sqrt[3]{80 + 48\sqrt{3}}$

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

49. Maxrajni irratsionallikdan qutqaring: $\frac{6}{\sqrt[6]{81}-\sqrt[6]{3}}$

A) $3\sqrt[3]{3} + \sqrt[6]{243}$ B) $\sqrt[6]{81} - \sqrt[6]{3}$ C) $3 - \sqrt[6]{243}$ D) $2\sqrt[3]{9} - \sqrt[6]{3}$

50. Kasrning maxrajini irratsionallikdan qutqaring: $\frac{6}{2+\sqrt[3]{2}-\sqrt[3]{4}}$

A) $2 - \sqrt[3]{4}$ B) $2 + \sqrt[3]{4}$ C) 3 D) $1 + \sqrt[3]{4}$

Kalitlar

1.	A	16.	D	31.	D	46.	A
2.	C	17.	A	32.	B	47.	B
3.	B	18.	A	33.	C	48.	B
4.	D	19.	C	34.	B	49.	A
5.	B	20.	D	35.	D	50.	B
6.	D	21.	B	36.	B		
7.	C	22.	A	37.	B		
8.	C	23.	A	38.	B		
9.	A	24.	B	39.	B		
10.	B	25.	B	40.	D		
11.	C	26.	C	41.	C		
12.	D	27.	A	42.	A		
13.	B	28.	B	43.	C		
14.	C	29.	B	44.	A		
15.	C	30.	D	45.	D		