Exercícios: Radiciação

Simplifique os radicais:

1. $\sqrt[3]{64} =$

2. $\sqrt{576} =$

3. $\sqrt{12} =$

4. $\sqrt[3]{2^7} =$

5. $\sqrt[4]{625} =$

6. $\sqrt[3]{72} =$

7. $\sqrt[4]{512} =$

Simplifique as expressões:

8. $\sqrt{8} + \sqrt{32} + \sqrt{72} - \sqrt{50} =$

9. $5\sqrt{108} + 2\sqrt{243} - \sqrt{27} + 2\sqrt{12} =$

10. $\sqrt{2000} + \sqrt{200} + \sqrt{20} + \sqrt{2} =$

11. $\sqrt[3]{128} - \sqrt[3]{250} + \sqrt[3]{54} - \sqrt[3]{16} =$

Simplifique:

12. $\sqrt{81x^3} =$

13. $\sqrt{45x^3y^2} =$

Reduza ao mesmo índice:

14. $\sqrt{2}, \sqrt[3]{5}, \sqrt[5]{3} =$

15. $\sqrt[3]{2^2}, \sqrt{3}, \sqrt[4]{5^3} =$

Efetue as operações indicadas com as raízes:

16. $\sqrt{3} \cdot \sqrt{12} =$

17. $\sqrt[3]{24} \div \sqrt[3]{3} =$

18. $\sqrt{\frac{3}{2}} \div \sqrt{\frac{1}{2}} =$

19. $\sqrt{3} \cdot \sqrt[3]{2} =$

20. $\sqrt[3]{4} \div \sqrt[4]{2} =$

21. $\sqrt[3]{\frac{5}{2}} \div \sqrt[5]{\frac{1}{2}} =$

Efetue as operações:

22. $2\sqrt{3}\left(3\sqrt{5} - 2\sqrt{20} - \sqrt{45}\right) =$

23. $\left(\sqrt{20} - \sqrt{45} + 3\sqrt{125}\right) \div 2\sqrt{5} =$

Expresse na forma de potência de expoente racional os seguintes radicais:

24. $\sqrt{5} =$

25. $\sqrt[3]{4} =$

26. $\sqrt{\sqrt{2}} =$

27. $\sqrt[4]{\sqrt[3]{5}} =$

28. $\left(\sqrt[3]{2^2}\right)^2 =$

Calcule, substituindo as potências de expoente racional pelos correspondentes radicais:

29. $8^{\frac{1}{3}} =$

30. $64^{\frac{-1}{2}} =$

31. $(0{,}25)^{\frac{-1}{2}} =$

32. $\left(\frac{9}{4}\right)^{\frac{1}{2}} =$

33. $\left(\frac{1}{32}\right)^{\frac{-1}{5}} =$

34. $(0{,}81)^{\frac{-1}{2}} =$

GABARITO:

1. 4
2. 24
3. $2\sqrt{3}$
4. $4\sqrt[3]{2}$
5. 5
6. $2\sqrt[3]{9}$
7. $4\sqrt[4]{2}$
8. $7\sqrt{2}$
9. $49\sqrt{3}$
10. $22\sqrt{5} + 11\sqrt{2}$
11. 0
12. $9x\sqrt{x}, x \geq 0$
13. $3xy\sqrt{5x}, x \geq 0$
14. $\sqrt[30]{2^{15}}$, $\sqrt[30]{5^{10}}$, $\sqrt[30]{3^6}$
15. $\sqrt[12]{2^8}$, $\sqrt[12]{3^6}$, $\sqrt[12]{5^9}$
16. 6
17. 2
18. $\sqrt{3}$
19. $\sqrt[6]{108}$
20. $\sqrt[12]{32}$
21. $\sqrt[15]{\frac{5^5}{2^2}}$
22. $-8\sqrt{15}$
23. 7
24. $5^{\frac{1}{2}}$
25. $2^{\frac{2}{3}}$
26. $2^{\frac{1}{4}}$
27. $5^{\frac{1}{12}}$
28. $2^{\frac{4}{3}}$
29. 2
30. 1/8
31. 2
32. 3/2
33. 2
34. 10/9