

Potencias y Radicales

$$a^m \times a^n = a^{m+n}$$

$$\frac{a^m}{a^n} = a^{m-n}$$

$$(a^m)^n = a^{m \times n}$$

$$(ab)^m = a^m \times b^m$$

$$\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$$

$$a^0 = 1 \quad (a \neq 0)$$

$$a^{-n} = \frac{1}{a^n}$$

$$\sqrt[n]{a} = a^{\frac{1}{n}}$$

$$\sqrt[n]{a} \times \sqrt[n]{b} = \sqrt[n]{ab}$$

$$\frac{\sqrt[n]{a}}{\sqrt[n]{b}} = \sqrt[n]{\frac{a}{b}}$$

$$\sqrt[m]{\sqrt[n]{a}} = \sqrt[m \times n]{a}$$

$$\sqrt[n]{a^m} = a^{\frac{m}{n}}$$

1. $4^3 \times 4^2$
2. $\frac{7^5}{7^2}$
3. $(3^2)^3$
4. $(5^3)^2$
5. $\frac{8^4 \times 2^3}{4^5}$
6. $(2^4 \times 5^2)^2$
7. $(6^{-2})^3$
8. $3^{-2} \times 3^5$
9. $(5^{-3})^{-2}$
10. $(2^{-4})^3$
11. $\frac{6^4 \times 8^2}{3^2 \times 2^3 \times 2^4}$
12. $\frac{15^2 \times 4^2}{12^2 \times 10}$
13. $\frac{2^5 \times 4^3}{8^2 \times 16}$
14. $\frac{2^5 \times 3^5 \times 4}{2^5 \times 9^3}$
15. $\left(\frac{a}{b}\right)^4 \times \frac{b^3}{a^2}$
16. $\left(\frac{2}{4}\right)^3 : (2^{-1})^{-2}$
17. $\frac{625^2 \times (25)^3 \times 5^4}{5^0 \times 125^2 \times (25^2)^3}$
18. $\frac{16 \times (32)^5}{1024^2}$
19. $\frac{27 \times (9^2)^4 \times 81}{729^4}$
20. $(3^4 \times 5^2)^2 \div (15^3)$
21. $\left(\frac{2^3 \times 3^2}{6^4}\right)^2$
22. $(4^{-2} \times 8^3)^2 \div (2^6)$
23. $(5^{-1} \times 2^{-3})^2 \div (10^{-3})$
24. $(2^{-2} \times 5^4)^3$
25. $(7^2 \times 2^{-4})^{-2}$
26. $(3^0 \times 6^{-2})^{-3}$
27. $\left(\frac{5^{-1}}{2^3}\right)^4$
28. $(2^5 \times 4^{-2})^3$
29. $\left(\frac{7^3 \times 2^{-5}}{3^2}\right)^{-2}$
30. $(6^2 \div 3^4)^{-1}$

Simplificar radicales

31. $\sqrt{450}$
32. $\sqrt{392}$
33. $\sqrt{882}$
34. $\sqrt{x^{10}y^8}$
35. $\sqrt{500}$

Expresar radicales como potencias

36. $\sqrt[3]{a^5}$
37. $\sqrt[4]{x^8}$
38. $\sqrt[5]{32}$
39. $\sqrt[6]{729}$
40. $\sqrt[3]{2^4}$

Extraer factores de los radicales

41. $\sqrt{18a^6b^3}$
42. $\sqrt{72a^4b^5c^2}$
43. $\sqrt{200a^7b^8}$

Sumar y restar radicales

44. $\sqrt{75} - \sqrt{27} + \sqrt{12}$
45. $\sqrt{50} - \sqrt{32} + \sqrt{18}$
46. $5\sqrt{98} - 3\sqrt{200} + 4\sqrt{8}$
47. $3\sqrt{32} - 2\sqrt{50} + \sqrt{72}$
48. $2\sqrt{125} - \sqrt{20} + 6\sqrt{320}$

Aplicar propiedades de los radicales

49. $\sqrt{6} \times \sqrt{6}$
50. $\sqrt{20} \div \sqrt{5}$
51. $\sqrt[3]{25} \times \sqrt[3]{5}$
52. $\sqrt{\sqrt[3]{64}}$
53. $\sqrt[3]{216}$
54. $\sqrt[3]{3375}$
55. $\sqrt[3]{\frac{8}{125}}$
56. $\frac{\sqrt[3]{54} \times \sqrt[3]{16}}{\sqrt[3]{432}}$
57. $\sqrt[3]{8} \times \sqrt[3]{32}$
58. $\sqrt[3]{27} \times \sqrt[3]{81}$
59. $\sqrt{2} \times \sqrt[4]{16} \times \sqrt[8]{256}$
60. $\frac{\sqrt[3]{162}}{\sqrt[3]{18}}$