

POTENCIAS Y RADICALES**Ejercicios propuestos****Opera con las siguientes potencias y raíces**

1. $16^{-2} \cdot 4^3 =$

2. $(7^2)^{-3} \cdot 7^3 =$

3. $(3^{-2} : 3^3) \cdot 3^{-2} =$

4. $\frac{4^2 \cdot 12^3 \cdot 15^2}{9^3 \cdot 8^2 \cdot 3^3} =$

5. $\frac{8^4 \cdot 15^3 \cdot 18^2 \cdot 12^{-3}}{20^3 \cdot 27^2 \cdot 3^{-3}} =$

6. $\frac{27^{-1} \cdot 81 \cdot 3^4 \cdot \left(\frac{2^3}{3}\right)^{-1} \cdot 2^3}{36 \cdot \left(\frac{1}{3}\right)^{-2} \cdot \frac{4}{3} \cdot \frac{27}{16} \cdot (2^0)^{-2}} =$

7. $\frac{(-27)^3 \cdot 32^{-5} \cdot (-8)^5 \cdot (25^2)^{-6}}{(-72)^4 \cdot (-50^3)^4} =$

8. $2^{\frac{3}{2}} \cdot 2^{\frac{1}{5}} =$

9. $\sqrt[3]{19^5} : \sqrt[4]{19^3} =$

10. $\frac{5^5 \cdot 5^{\frac{1}{2}}}{\sqrt{5} \cdot 5^{-3}} =$

11. $\frac{2^{\frac{1}{5}} \cdot 2^3 \cdot 2^{\frac{1}{2}}}{2^3 \cdot 2^{\frac{25}{125}}} =$

12. $\frac{2^{\frac{1}{2}} \cdot 2^{-\frac{1}{3}} \cdot 2^2}{2^2 \cdot 2^{\frac{1}{2}}} =$

13. $\frac{\sqrt[4]{27}}{\sqrt[3]{18}} =$

14. $\sqrt[4]{-80} : \sqrt[3]{18} =$

15. $\left(\sqrt[15]{-\frac{1}{243}}\right)^3 =$

16. $\sqrt[3]{\sqrt{2}} \cdot \sqrt[3]{16} =$

17. $\sqrt[3]{\sqrt{2}} \cdot \sqrt[3]{16} =$

18. $\sqrt{\sqrt[3]{\sqrt[4]{64^4}}} =$

19. $\sqrt{\frac{3\sqrt{2}}{8}} =$

20. $\frac{(\sqrt[4]{3^2})^2 \cdot (\sqrt[3]{3})^6}{(\sqrt[12]{3^4})^6} =$

21. $\frac{(\sqrt[5]{3})^4 \cdot (\sqrt[3]{3})^2}{(\sqrt{3^4})^3} =$

$$22. \frac{(\sqrt[4]{3^4})^2 \cdot \sqrt[4]{\sqrt[5]{3^{25}}}}{[\sqrt[9]{\sqrt[5]{3}}]^{15} \cdot 3} =$$

$$26. \sqrt{8} - \sqrt{50} - \frac{1}{2}\sqrt{98} =$$

$$23. \frac{(\sqrt[9]{2^3})^2 \cdot 2}{\sqrt{(\sqrt[4]{2})^4}} =$$

$$27. \frac{1}{2}\sqrt{3} - \sqrt{12} - \frac{3}{4}\sqrt{75} =$$

$$24. \frac{(\sqrt[4]{5^2})^4 \cdot \sqrt[4]{\sqrt[5]{5^{20}}}}{[\sqrt[3]{\sqrt[5]{5}}]^{15} \cdot 25} =$$

$$28. \sqrt{9xy} + \frac{xy}{\sqrt{4xy}} + \frac{\sqrt[6]{(xy)^{21}}}{x^3y^3} =$$

$$25. \frac{\sqrt{\frac{a}{b} \sqrt[3]{2a^{-2} \sqrt{\frac{b^3}{a}}}}}{2\sqrt{ab^2}} =$$

$$29. \sqrt{256x^2y} + \frac{1}{3}\sqrt[4]{\frac{81y^2}{x^{-4}}} - x\sqrt{225y} =$$

Racionaliza

$$30. \frac{1}{2 \cdot \sqrt[3]{5}} =$$

$$33. \frac{\sqrt{2}}{\sqrt{3}+1} =$$

$$31. \frac{1}{\sqrt[5]{x^4}} =$$

$$34. \frac{\sqrt{2} + \sqrt{3}}{\sqrt{2} - \sqrt{3}} =$$

$$32. \frac{\sqrt[3]{x}}{\sqrt[6]{x^5}} =$$

$$35. \frac{2\sqrt{3} + \sqrt{2}}{2\sqrt{3} - \sqrt{2}} =$$
