

NM1: Potencias

Aplica las propiedades de las potencias:

$$1. (-2)^0 + \left(\frac{1}{2}\right)^{-1} - \left(\frac{1}{2}\right)^2 =$$

$$2. (-0,5)^{-6} + (0,25)^{-3} + (0,125)^{-2} =$$

$$3. (0,75)^{-3} : \left(1\frac{1}{3}\right)^3 - \left(\frac{1}{2}\right)^{-1} =$$

$$4. 2^3 + 6^2 - 6^3 \cdot 2^3 - (-2)^3 =$$

$$5. 3^0 - 3^{-1} + 3^{-2} - 3^{-3} =$$

$$6. \frac{9^0 \cdot 9^{-1} \cdot (-9)^3}{9^{-2} \cdot (-9)^2 \cdot (-9)^{-2}} =$$

$$7. (-0,3)^{-1} + (-0,2)^{-3} =$$

$$8. \frac{x^{-3}y + y^{-3}x}{(xy)^{-2}} =$$

$$9. \frac{(3^2)^2 \cdot (2^3)^2 \cdot 3 \cdot 2^2 \cdot 2^7}{(2 \cdot 3^2)^5 \cdot (3^5 \cdot 2^2)^2 \cdot 2^7 \cdot 3^3} =$$

$$10. (2x^{-1} + 3y^{-1})^{-1} =$$

$$11. 2 \cdot 100^{\frac{1}{2}} - \frac{1}{3} \cdot 9^{\frac{1}{2}} + \frac{2}{5} \cdot 25^{\frac{1}{2}} + 3 \cdot 8^{\frac{1}{3}} - \frac{2}{3} \cdot 81^{\frac{1}{4}}$$

$$12. \left(\frac{2x^2(yz)^2}{3a^2b^3}\right)^{-3} : \left(\frac{a^5b^6c^5}{(xyz)^3}\right)^2 =$$

$$13. (0,2 a^3b^3)^2 + (0,4 a^2b^2)^3 =$$

$$14. \left(\frac{1}{4}\right)^{\frac{-1}{2}} + \left(\frac{1}{16}\right)^{\frac{-1}{4}} - \left(\frac{1}{32}\right)^{\frac{-1}{5}} =$$

$$15. 81^{-0,25} + 100^{-0,5} - 32^{-0,2} =$$

$$16. a^2b^3 \cdot (a^2b^5 + a^3b^2 + ab^2) =$$

$$17. \frac{a^5b^{x+1}c^y}{ax^2y^3} \cdot \frac{a^4b^{x-3}c^{y+1}}{x^4y^5a^3} =$$

$$18. (a^{m+n} - a^{m-2n} + a^{2m-n}) : a^{m-n} =$$

$$19. \left(\frac{2}{3}a^4b^5 + \frac{3}{5}a^4b^2 - \frac{1}{2}a^3b^4\right) : \frac{4}{3}a^3b^2 =$$

$$20. \frac{a^4b^5c^{-4}p^{-1}}{x^{-2}y^4z^{-1}q^{-3}} \cdot \frac{xy^3z^4q^{-2}}{a^{-3}bc^{-2}p^2} =$$

$$21. \left[\frac{2a-2b}{a+b}\right]^2 \cdot \left[\frac{a^2+2ab+b^2}{a-b}\right]^2 =$$

$$22. \left(\frac{12a^2b}{7xy^2}\right)^{-5} : \left(\frac{14x^2y^2}{4a^2b^2}\right)^5 =$$

$$23. \left(\frac{2}{5}\right)^{-1} : 2^{-1} + \left(\frac{3}{4}\right)^{-2} : \left(\frac{1}{4}\right)^{-2} =$$

$$24. \frac{(a^3b^2)^5 \cdot (a^2b^2)^3}{(ab^3)^4 \cdot (a^4b^2)^2} =$$

$$25. \frac{\left(\left(\frac{1}{2}\right)^{-2}\right)^3 \cdot (2^{-3})^{\frac{1}{3}}}{\left(2^{\frac{1}{4}}\right)^{-8} \div \left(\left(\frac{1}{2}\right)^6\right)^{\frac{-1}{6}}} =$$

$$26. \left(\frac{1}{2}\right)^{-1} + \left(\left(\frac{3}{4}\right)^{-1}\right)^2 + (2^{-3})^{-1} =$$

$$27. \left(\frac{a}{b}\right)^{-2} \cdot \left(\frac{b}{a}\right)^2 \cdot \left(\frac{a}{b}\right)^{-3} \cdot \left(\frac{b}{a}\right)^4 =$$

$$28. \left(\frac{a+b}{c-d}\right)^4 \cdot \left(\frac{a-b}{a+b}\right)^3 \cdot \left(\frac{c-d}{a+b}\right)^2 \cdot \left(\frac{c-d}{a-b}\right)^2 =$$

$$29. (a^2 + b^2)^0 \cdot \frac{1}{a^{-2} + b^{-2}} =$$

$$30. (8 \cdot a^0 - 2^0 \cdot 2^3)^0 =$$

$$31. \left(\frac{x-y}{x+y}\right)^3 \cdot \left(\frac{a-b}{a+b}\right)^4 \cdot \left(\frac{x+y}{x-y}\right)^4 \cdot \left(\frac{a+b}{a-b}\right)^3 =$$