

Practice with Exponents

Simplify the expression. Write your answers using only positive exponents.

1. $5^{-3} \cdot 5^5$

2. $\frac{4^6 \cdot 4^2}{4^3}$

3. $\left(\left(\frac{1}{3}\right)^{-2}\right)^3$

4. $x^4 \cdot x^7 \cdot x$

5. $(-2x^5)^3$

6. $(3x^2)^3 \cdot 2x^2$

7. $\left(\frac{4x^5}{3}\right)^3 \cdot \frac{1}{x^6}$

8. $(2x^3y^{-1})(8x^4y^{-2})$

9. $(3x)^{-4}$

10. $\frac{(-2x^4y)^2(3x^5y^2)^2}{(2x^3y^5)^3}$

11. $\frac{4x^4}{-6x^{-1}y^5} \cdot \frac{3y^{-1}}{x^{-2}}$

12. $\left(-\frac{6}{x}\right)^3 \cdot \left(\frac{x^4}{3y^7}\right)^5$

13. $(2x^5y^{-2})^{-3}$

14. $\left(\frac{-3x^{-2}y^4}{4x^3y^{-5}}\right)^{-2}$

15. $\frac{(3x^2y^{-3})^{-2}(2x^{-3}y^4)}{(-2x^5y^{-2})^3}$