



Negative Exponents

Negative Power Rule: $A^{-m} = \frac{1}{A^m}$

Example:

Simplify $\frac{4^5}{4^{11}}$ in exponential notation.

$$\begin{aligned}\frac{4^5}{4^{11}} &= 4^{5-11}, \\ &= 4^{-6}, \\ &= \frac{1}{4^6}.\end{aligned}$$

Simplify the following expressions in exponential notation.

1. $\frac{6^2}{6^7}$

2. $\frac{12^0}{12^4}$

3. $\frac{48^3}{48^5}$

4. $\frac{8}{2^6}$

5. $\frac{8^7}{8^8}$

6. $\frac{3}{3^{10}}$

Write the following in fractional form using a positive exponent.

1. 6^{-2}

2. 12^{-4}

3. $8^{-5} \times 8^3$

4. 2^{-6}

5. $(8^{-2})^3$

6. $3^8 \div 3^{10}$

7. 25^{-13}

8. $11^5 \div 11^9$

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