

Rules for Simplifying Exponentials

Definition – the exponent tells you how many times to write the base as a factor

Rule 1. $A^m A^n = A^{m+n}$

Rule 2. $A^m \div A^n = A^{m-n}$

Rule 3. $A^0 = 1, A \neq 0$

Rule 4. $(A^m)^n = A^{mn}$

Rule 5. $A^{-n} = \frac{1}{A^n}, A \neq 0$

Rule 6. $\left(\frac{A}{B}\right)^m = \frac{A^m}{B^m}; (AB)^m = A^m B^m$

Rule 7. $\left(\frac{A}{B}\right)^{-m} = \frac{B^m}{A^m}$

Rule 8. $A^{\frac{m}{n}} = \sqrt[n]{A^m}$