FIBO · CHEAT SHEET

Exponent Rules

Unit 5 · Powers & Roots — the whole lesson on one page. Keep it in your binder.

🖼️ Key picture

1. Multiply powers → add exponents $x^3 \cdot x^4 = x^7$
2. Divide powers → subtract exponents $2^5 \div 2^2 = 2^3$
3. Power of a power → multiply exponents $(3^2)^4 = 3^8$
4. Zero exponent → 1 (base ≠ 0) $5^0 = 1$
5. Negative exponent → flip to denominator $2^{-3} = 1 \div 2^3$

All five rules, color-coded: **base** in blue, **exponent** in red.

📌 Key points

- $x^m \cdot x^n = x^{m+n}$ — multiply powers: **add** exponents
- $x^m \div x^n = x^{m-n}$ — divide powers: **subtract** exponents
- $(x^m)^n = x^{mn}$ — power of a power: **multiply** exponents
- $x^0 = 1$ $(x \neq 0)$ · $x^{-n} = \frac{1}{x^n}$ — zero is 1, negative flips
- Rules work across × and ÷ only — a **+** or **−** between powers stops them

💡 **One-line pointer:** worked examples, application problems, and blank workspaces live in the companion **exponents-lecture.pdf**.