

Exponents + SN

Exponents

1. Multiplying Powers - Keep Base + Add Powers $3^2 \cdot 3^4 = 3^6$
2. Dividing Powers - Keep Base + Subtract Powers $\frac{10x^5}{2x^2} = 5x^3$
3. Power to a Power - Multiply Powers $(2x^4y)^3 = 2^3 x^{12} y^3$
4. Negative Exponents - Flip to denominator + make positive $a^{-2} = \frac{1}{a^2}$

* Anything to the zero power
 Always equals ONE *

$x^0 = 1$ $(5x)^0 = 1$ $(2x^4z)^0 = 1$

$$a^{-2} = \frac{1}{a^2}$$

$$b^{-3} = \frac{1}{b^3}$$

$$\frac{a^{-2}}{b^{-3}} = \frac{b^3}{a^2}$$

Oct 10-9:31 AM

SN

SN → Standard Form

2×10^4 vs 2×10^{-4}

move decimal 4 places right → 20,000

move decimal 4 places left → 0.0002

Add/subtract
 * Get exponents the same (change smaller power)

Mult./divide

↙ mult. Coe. Add exponents

↘ divide Coe. Sub. exp.

Oct 13-9:18 AM

SN Operations Cheat Sheet ^{10/4}

Adding & Subtracting

- Change to Standard Form
- Add or Subtract (use calculator)
- Change back to Scientific Notation

Remember:

Label
Answer
Work

Multiplying & Dividing

- Multiply or Divide Coefficients
- Add or Subtract Exponents
(Multiply) (Divide)

- Make Sure Answer is in Scientific Notation
(between 1 & 10)

if over 10
[Move decimal
Left → Exponent
Gets Larger

if less than 1
[Move decimal
Right → Exponent
Gets Smaller

Oct 4-9:32 AM