

Exponent Rules

Product Rule

$$x^n \cdot x^m = x^{(n+m)}$$

$$a^3 \cdot a^5 = a^8$$

Quotient Rule

$$\frac{x^n}{x^m} = x^{(n-m)}$$

$$\frac{a^{13}}{a^7} = a^{(13-7)} = a^6$$

Power Rule

$$(x^n)^m = x^{(n \cdot m)}$$

$$(a^2)^5 = a^{(2 \cdot 5)} = a^{10}$$

Negative Rule

$$x^{-n} = \frac{1}{x^n}$$

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

Zero Rule

$$x^0 = 1$$

$$a^0 = 1$$

Simplify:

$$a^2 \cdot a^{-4} = \frac{1}{a^2}$$

$$2p^2 \cdot 3p = \frac{6p^3}{1}$$

$$(s^3)^{-2} = \frac{1}{s^6}$$

positive exponents
only!