BASIC RULES OF EXPONENTS

This is what we've been working on amid the basketball tournaments.

Product Rule

- $(7x^5)(4x^3) = 28x^8$
- Multiply coefficients … 7×4
- Add exponents … $5 + 3$

Power Rule

- $(4x^8)^3 = 64x^{24}$
- Take coefficient to outside power … 4^3
- Multiply exponents … 8×3

Quotient Rule

- $\frac{50x^7y^5z^3}{10x^4y^9z^3} = \frac{5x^3}{y^4}$
- Divide coefficients … $50 \div 10$
- Subtract exponents … $7 - 4$ and $9 - 5$
    - In this problem the z's **cancel**.
    - Since the larger amount of y's was on the bottom, the answer (y^4) also goes on the bottom. (Your answer shouldn't have negative exponents.)

Negative Exponents

- Negative exponents mean you do the **reciprocal**.
- $\left(\frac{3x^5}{4}\right)^{-2} = \frac{16}{9x^{10}}$
- Take 3^2 and 4^2, multiply the exponents, and flip the answer.