

Agenda

- **Homework:**

- Exponents Laws Review WS
- AM

- **Materials:**

- Math Notebook

- **DO NOW:**

- On your DESK, simplify the following

- $(2x^3)(4x^2)$

- $\frac{8y^7}{4y^3}$

- $(3n^5)^2$

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Exponent Laws Station Work

Groups 1 & 2	Groups 3 & 4	Groups 5 & 6
Product Rule	Quotient Rule	Power to a Power

- ① **Complete** the problems from the worksheet IN your NOTEBOOK (Be sure to write the PROBLEM too)
- ② Do NOT write on the worksheet
- ③ **Get teacher approval** before moving to the next station

Product Rule

- CHECK

- Are you MULTIPLYING?

- Are the bases the same?

- If both are checked:

- MULTIPLY the coefficients

- Keep the base

- ADD the exponents

$$(3x^5y^3)(2x^2y)$$

$6x^7y^4$

Practice

1. $(x^2)(x^4)$

2. $(2m^3)(6m)$

3. $(-3r^4s^5)(7rs^2)$

4. What number goes in the box?

$$(x^{\square})(x^3) = x^{10}$$

5. What numbers could go in the boxes?

$$(x^{\square})(x^{\square}) = x^{12}$$

Quotient Rule

- CHECK

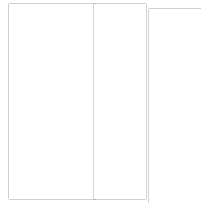
- Are you DIVIDING?

- Are the bases the same?

8	x^4	y^6
2	x^3	y



$$4 x^1 y^5$$



- If both are checked:

- DIVIDE the coefficients

- Keep the base

- SUBTRACT the exponents

Practice

1. $\frac{x^6}{(x^4)}$

2. $\frac{16m^3}{8m}$

3. $\frac{-12r^4s^5}{-3rs^2}$

4. What number goes in the box?

$$\frac{x^{\square}}{x^3} = x^5$$

5. What numbers could go in the boxes?

$$\frac{x^{\square}}{x^{\square}} = x^8$$

PowerRule

- CHECK

- Is it an exponent raised to another exponent?

$$\begin{array}{ccc} (2x^4y)^3 & & \begin{array}{|c|c|c|} \hline & & \\ \hline \end{array} \\ \downarrow \quad \downarrow \quad \downarrow & & \\ 2^3 (x^4)^3 (y^1)^3 & & \\ \downarrow \quad \downarrow \quad \downarrow & & \\ 8x^{12}y^3 & & \end{array}$$

- If checked:

- Distribute the outside exponent
- Apply the exponent on the coefficient
- KEEP the base
- MULTIPLY the exponents

Practice

1. $(x^2)^6$

2. $(2m^4)^3$

3. $(-3r^4s^5)^2$

4. What number goes in the box?

$$(x^{\square})^2 = x^{10}$$

5. What numbers could go in the boxes?

$$(x^{\square})^{\square} = x^{12}$$

Practice

1. $(2^2)(3^3)$

2. $2^3 + 2^2$

3. $\frac{4^3}{2^2}$

MINI QUIZ

Simplify the following

1. $(10p^3q^4r)(2pq^2r^0)$

2. $\frac{10p^3q^4r}{2pq^2r^0}$

3. $(3x^2y)^3$