EXPONENT RULES

Graphic Organizer

Name	Rule	Examples
ADDING & SUBTRACTING MONOMIALS	**COMBINE LIKE TERMS!!!** (DO NOT CHANGE common variables and exponents!)	**1.** $9x^2y - 10x^2y =$ **2.** Subtract $6w$ from $8w$.
PRODUCT RULE	$x^a \cdot x^b =$	**1.** $h^2 \cdot h^6 =$ **2.** $(-2a^2b) \cdot (7a^3b) =$
POWER RULE	$(x^a)^b =$	**1.** $(x^2)^3 =$ **2.** $(-2m^5)^2 \cdot m^3 =$
QUOTIENT RULE	$\frac{x^a}{x^b} =$	**1.** $\frac{27x^5}{42x} =$ **2.** $\frac{(y^2)^2}{y^4} =$
NEGATIVE EXPONENT RULE	$x^{-a} =$	**1.** $-5x^{-2} =$ **2.** $\frac{4k^2}{8k^5} =$
ZERO EXPONENT RULE	$x^0 =$	**1.** $7x^0 =$ **2.** $\frac{(w^4)^2}{w^8} =$

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Name: _____ **Unit 6:** Exponents & Exponential Functions

Date: _____ **Bell:** _____ **Homework 5:** Monomials (All Operations)

Simplify the following monomials. Your answer should contain positive exponents only.		
1. $3a^3b^2 - 5a^3b^2$	**2.** $5xy - 2x^2y + 2xy$	**3.** Subtract $-2w$ from $-6w$
4. $a^4 \cdot a^3$	**5.** $(-x^5)^2$	**6.** $\frac{k^9}{k^5}$
7. $-5x^3 \cdot (-3x^4)$	**8.** $(-2x^2y)^2 \cdot (-3xy^3)$	**9.** $2a^{-5}b^6 \cdot 5a^2b^2$
10. $(-4y^4)^2$	**11.** $(a^2bc^3)^4 \cdot (b^2c)^3$	**12.** $(6cd^{-1})^{-3}$
13. $(4a)^{-3} \cdot a^{-4}$	**14.** $(3xy)^2 \cdot (-4x^3y^2)^3$	**15.** $(4a^{-1}b^5c^{-3})^3$
16. $\frac{9d^8}{3d^{10}}$	**17.** $\frac{6a^5b^2}{4ab^3}$	**18.** $\frac{32x^3y^2z^5}{-8xyz^2}$
19. $\frac{(2y^5)^4}{10y^{15}}$	**20.** $\left(\frac{3x^5y^3}{x^3y^6}\right)^4$	**21.** $\frac{(-6a^5b)^2}{12a^7b} - 8a^3b$

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