

# EXPONENT RULES

## GRAPHIC ORGANIZER

Name	Rule	Examples
<p>ADDING &amp; SUBTRACTING MONOMIALS</p>	<p><b>COMBINE LIKE TERMS!!!</b></p> <p>(Do NOT change common variables and exponents!)</p>	<p>1. <math>9x^2y - 10x^2y =</math></p> <p>2. Subtract <math>6w</math> from <math>8w</math></p>
<p>PRODUCT RULE</p>	$X^a \cdot X^b =$	<p>1. <math>h^2 \cdot h^6 =</math></p> <p>2. <math>(-2a^2b) \cdot (7a^3b) =</math></p>
<p>POWER RULE</p>	$(X^a)^b =$	<p>1. <math>(x^2)^3 =</math></p> <p>2. <math>(-2m^5)^2 \cdot m^3 =</math></p>
<p>QUOTIENT RULE</p>	$\frac{X^a}{X^b} =$	<p>1. <math>\frac{27x^5}{42x} =</math></p> <p>2. <math>\frac{(y^2)^2}{y^4} =</math></p>
<p>NEGATIVE EXPONENT RULE</p>	$X^{-a} =$	<p>1. <math>-5x^{-2} =</math></p> <p>2. <math>\frac{4k^2}{8k^5} =</math></p>

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Key  
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Name	Rule	Examples
ADDING & SUBTRACTING MONOMIALS	<b>COMBINE LIKE TERMS!!!</b>  (Do NOT change common variables and exponents!)	1. $9x^2y - 10x^2y = -x^2y$  2. Subtract $6w$ from $8w$ $2w$ $8w - 6w$
PRODUCT RULE	$x^a \cdot x^b = x^{a+b}$	1. $h^2 \cdot h^6 = h^8$  2. $(-2a^2b) \cdot (7a^3b) = -14a^5b^2$
POWER RULE	$(x^a)^b = x^{ab}$	1. $(x^2)^3 = x^6$  2. $(-2m^5)^2 \cdot m^3 = 4m^{13}$ $4m^{10} \cdot m^3$
QUOTIENT RULE	$\frac{x^a}{x^b} = x^{a-b}$	1. $\frac{27x^5}{42x} = \frac{9}{14}x^4$  2. $\frac{(y^2)^2}{y^4} = \frac{y^4}{y^4} = 1$
NEGATIVE EXPONENT RULE	$x^{-a} = \frac{1}{x^a}$	1. $-5x^{-2} = -\frac{5}{x^2}$  2. $\frac{4k^2}{8k^5} = \frac{1}{2}k^{-3} = \frac{1}{2k^3}$