

Chapter 7 Student Success Sheet (SSS)

Laws of Exponents

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Olathe East High School – Intermediate Algebra

Name: _____

Hour: _____

Reminders:

- Homework is completed in **homework notebook only**.
- All pages in homework notebook should be labeled accordingly:
Unit _____ Concept _____ - (title of assignment)

Examples:

Unit 1 Concept 1 – Practice Quiz
Unit 1 Concept 1-4 – Practice Test

Need Help? Support is available!

- www.srushingoe.weebly.com

“There are no secrets to success. It is the result of preparation, hard work, and learning from failure.”

Colin Powell

Concept #	What we will be learning...	Mandatory Practice
1	Product property	Practice Quiz 1
2	Power property	Practice Quiz 2
3	Zero exponent property	Practice Quiz 3
4	Quotient property	Practice Quiz 4
5	Negative exponent property	Practice Quiz 8

Coefficient – Base – Exponent!

C _____ - **B** _____ - **E** _____

Numerator

Denominator

If there isn't an exponent, then the exponent is _____!

Exponents must have the _____
_____ if you are going to simplify
them in any of the ways below!

#1	Product property	
<p>1. B _____ all C _____</p> <p>2. H _____ the B _____ with its E _____ (different bases are different colors!)</p> <p>3. M _____ the C _____</p> <p>4. A _____ the E _____, keeping the bases the S _____</p>		
<p>1) $v^2 \cdot -v^4$</p> <p>3) $-2a^4 \cdot -a^4$</p> <p>5) $4y^4 \cdot -2y^4$</p> <p>7) $2xy \cdot -3y$</p> <p>9) $2x^2y^2z^2 \cdot -3z^3 \cdot -4z^4$</p> <p>11) $3b^3c^2 \cdot -4ba^4c^3$</p>	<p>2) $4x^3 \cdot -2x^3$</p> <p>4) $2n^2 \cdot -2n \cdot -n^2$</p> <p>6) $3m^4n^4 \cdot 3n^2$</p> <p>8) $u^4v^2 \cdot -3v^3$</p> <p>10) $-2jh^4k^4 \cdot -3hj^4$</p> <p>12) $2h^2j^3k^2 \cdot -4h^2j^3k^4$</p>	

#2	Power property	
<p>1. D _____ the P _____ to all parts in the P _____</p> <p>a. C _____ receive it as a regular E _____</p> <p>b. B _____ with E _____ receive it and M _____ the exponents together!</p>		
<p>13) $(2m)^2$</p> <p>15) $(4x^4)^2$</p> <p>17) $(3x^2)^2$</p> <p>19) $(3m^3n^2)^2$</p> <p>21) $(4bc^3)^3$</p> <p>23) $(4y^2z^4)^2$</p>	<p>14) $(4m)^2$</p> <p>16) $(3n^2)^4$</p> <p>18) $(3mn)^3$</p> <p>20) $(4x^2)^3$</p> <p>22) $(4kj^3)^2$</p> <p>24) $(4x^3y^3z^3)^2$</p>	

#3	Zero exponent property
1. Any N _____ or V _____ raised to the power of Z _____ is equal to _____!	
25) $-4k \cdot -2k^0$	26) $-4n^2 \cdot n^0$
27) $x^2 \cdot 4x^0$	28) $-4r^0 \cdot -3r^4$
29) $-2xy^0 \cdot -3y^4$	30) $u^3 v^4 \cdot -3vu^0$
31) $x^0 y^4 \cdot -3x^3 y^2$	32) $4x \cdot -x^4 \cdot -2x^0 y^4$
33) $-j^3 k^2 \cdot -kh^0 j^4$	34) $-ba^0 c^3 \cdot -ca^2 b^3$
35) $-3hj^3 k^3 \cdot 2h^4 j^0 k^3$	36) $2m^4 p^3 q^4 \cdot 4mp^0 q^4$

#4	Quotient property	
<p>1. B _____ all C _____</p> <p>2. H _____ the B _____ with its E _____ (different bases are different colors!)</p> <p>3. D _____ or R _____ the C _____</p> <p>4. S _____ the E _____ from B _____ to S _____, putting your answer where the B _____ exponent was & keeping the bases the S _____</p> <p>5. You should never have an N _____ E _____</p>		
<p>37) $-\frac{2n^2}{3n^2}$</p> <p>39) $\frac{3p^4}{-3p}$</p> <p>41) $\frac{2a^3b^4}{-4ba^2}$</p> <p>43) $\frac{4x^2y^4}{-x^0y^0}$</p> <p>45) $\frac{-3x^3z^2}{-2x^2z^2}$</p> <p>47) $\frac{p^2q^2}{4m^4p^2q}$</p>	<p>38) $\frac{4x^2}{-2x}$</p> <p>40) $\frac{k^0}{-3k}$</p> <p>42) $-\frac{2x^3y^4}{2y^3}$</p> <p>44) $\frac{2b}{a^3b^0}$</p> <p>46) $\frac{-2jkh^4}{-4h^3j^2k^4}$</p> <p>48) $-\frac{4n^3p^3}{m^4n^2p^3}$</p>	

#5	Negative exponent property	
<p>1. B _____ all C _____</p> <p>2. H _____ the B _____ with its E _____ (different bases are different colors!)</p> <p>3. C _____ the base with the N _____ exponent!</p> <p style="padding-left: 40px;">a. Take that part and C _____ the L _____, C _____ the S _____!</p> <p style="padding-left: 80px;">i. If it is in the D _____, move it to the N _____ and make it P _____</p> <p style="padding-left: 80px;">ii. If it is in the N _____, move it to the D _____ and make it P _____</p> <p>4. Finish simplifying according to your other properties.</p>		
<p>49) $-2x^{-3} \cdot x^0$</p> <p>51) $\frac{-v^2}{-2v^{-3}}$</p> <p>53) $4y^4 \cdot -4yx^3 \cdot -x^3y^{-1}$</p> <p>55) $\frac{x^4y^2}{-2x^4}$</p> <p>57) $-3mn^4p^{-2} \cdot m^0n^0p^4$</p> <p>59) $\frac{-pm^0q^4}{-3m^3p^2q^{-3}}$</p>	<p>50) $a^2 \cdot -2a \cdot 2a^{-3}$</p> <p>52) $\frac{2a^2}{3a^{-1}}$</p> <p>54) $-v^{-1} \cdot 2v^0$</p> <p>56) $\frac{2mn^{-2}}{-mn^4}$</p> <p>58) $-2x^{-2}y^2z^0 \cdot x^2y^4z^2$</p> <p>60) $\frac{4x}{4x^4y^2z^{-1}}$</p>	