

➔ **Work with 2 or 3 other people ... your group must agree on all answers!** ←

A. Multiplying and Dividing – Factors with the Same Base

Show how to do each problem the long way and then the short way; the first one is done for you.

	Long Way	Short way
Example: 1. $8x^3(2x)$	$8xxx(2x) = 16x^4$	$2 \cdot 8x^{3+1} = 16x^4$

2. $-4a^2b(3a^4b^2)$

3. $5wz^0(4w^6z^3)$

Example: 4. $\frac{4x^6}{8x^2}$

$\frac{2 \cdot 2xxxxxx}{2 \cdot 2 \cdot 2xx} = \frac{xxxx}{2} = \frac{x^4}{2}$

$\frac{x^{6-2}}{2} = \frac{x^4}{2}$

5. $\frac{15a^3b^2}{3a^2b}$

6. $\frac{12m^2p^8}{4m^6p^2}$

B. Power of a Term

Show how to do each problem the long way and then the short way; the first one is done for you.

	Long Way	Short way
Example: 7. $(3x^4)^2$	$3x^4(3x^4) = 9x^{4+4} = 9x^8$	$9x^{2(4)} = 9x^8$

8. $(-3k^4)^3$

9. $(5a^2b)^4$

C. Three Rules

Multiplying, factors (same base): Keep the base, _____ the exponents

Dividing, factors (same base): Keep the base, _____: like this TOP exponent minus _____

Power of **one term**: (A) Each factor inside raised to the power

(B) _____ the exponent on each factor by the power