Simplifying Exponents

Here are the 4 basic rules we follow when simplifying expressions with exponents.

Exponent Rules

When you multiply same bases, you add

But dividing same bases, you subtract

If the exponent's negative, take it to the other side

And a power to a power, multiply

Yee-haw!!

Rule #1: When you multiply same bases, you add

$x^3(x^5)$	$a^3(a)$
$8m^3(4m^2)$	$3a^4(7a^8)$
$4x^4(-5x^3)$	$-6d(-4d^3)$

What if the exponent is zero??

This is a super-strange rule. If the exponent is zero, then the answer is 1. The whole thing turns into a 1.

Anything to the zero power equals 1

5^0	12^0	x^0	m^0

Assignment 7-3 Exponent Rule #1: Multiplying

Simplify the following expressions.

1. 7^0	2. 12^0	3. x^0
4. $x^2(x^6)$	5. $y^2(y^3)$	6. $x(x^7)$
7. $-5a^5(7a)$	8. $3x^2(6x^5)$	9. $-9h(-4h)$
10. $8x^3(-2x^7)$	11. $7m^2(2m)$	12. $-4x(-5x^2)$
13. $3y^2(7y^3)$	14. $-2a^4(10a)$	15. $-5x^6(-6x)$

Review (from Notes 6-2)

Evaluate the following expressions.

16. $4a - 2$ if $a = 4$	17. $3x + 5$ if $x = -5$	18. $-4j + 7$ if $j = -2$