3.3. Operations with Exponents

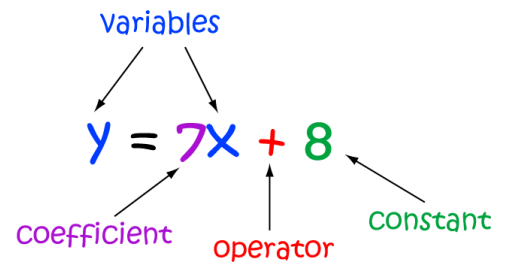Name:_____   Block_____

In Chapter 1 we practiced evaluating more complicated expressions that required the **order of operations**. Now we will build on these skills with the *addition of exponent rules.*

R   Q   M   D   A   S

Determining the Product of a Power

Expressions with powers can have a ***numerical coefficient***.
  ① evaluate the power
  ② multiply by the coefficient.

variables

$y = 7x + 8$

coefficient   operator   constant

Expression	Coefficient	Power	Repeated Multiplication	Value
$3(4)^3$	3	$(4)^3$	3 x 4 x 4 x 4	192
$2(-2)^3$				
-2^3				

PRACTICE

Evaluate each expression:

a) $3(6)^2$

b) $2(-4)^2$

c) -4^6

d) $-3(2)^4$

e) $-3(-5)^3$

f) $5 \bullet -6^3$

Evaluate Expressions with Powers

Evaluate expressions with powers using the proper order of operations (BEDMAS)

PRACTICE

a) $7 + 3(-2)^3$

b) $4 - (2 + 3)^2 \div 25$

c) $5(4)^3 \div (-2)^4$

d) $[\,(-7)^2 - (-2)^6\,]^2$

e) $\left(\dfrac{2x^3 y^2}{3xy}\right)^2$ *when x=2 y=3*

f) $\dfrac{-16 + (-3)^2}{(6-2)^2 - (-4)^2}$

g) $[5(-4)^3]^2$

h) $\left[\dfrac{(-3)^5}{3^3}\right]^2 - \left[\dfrac{(-2)^5}{2^0}\right]^3$

Homework ASSIGNMENT #4 Section 3.3 pg 91-93
Questions #1-14, 16 *15, 17, 18