2.3 Order of Operations with Exponents

Math 9   Order of Operations with Exponents   Name: _____

- distinguish between a coefficient and the base of a power
- ALWAYS apply the correct order of operations
- mind negative signs

Identify the coefficient and base of each power, then evaluate.

$3(2)^4 =$ $3(16) = 48$ $-3(-5)^2 =$ $-3(25) = -75$ $-4^4 =$ -256

base = 2   base = -5   base = 4
coefficient = 3   coefficient = -3   coefficient = -1

$4 \times 3^2 =$ $4 \times 9 = 36$ $6(-2)^3 =$ $6(-8) = -48$ $-7^2 =$ -49

base = 3   base = -2   base = 7
coefficient = 4   coefficient = 6   coefficient = -1

Evaluate each expression. $(-3)^2 = 9$

$4^2 - 8 \div 2 + (-3^2)$ $-2(-15 - 4^2) + 4(2+3)^3$

$= 16 - 8 \div 2 + (-9)$ $= -2(-15 - 16) + 4(5)^3$

$= 16 - 4 \quad - 9$ $= -2(-31) + 4(125)$

$= \quad 12 \quad - 9$ $= \quad 62 \quad + 500$

$= 3$ $= 562$

$4^2 + (-4^2)$ $8(5+2)^2 - 12 \div 2^2$

$= 16 + -16$ $= 8(7)^2 - 12 \div 4$

$= 16 - 16$ $= 8(49) - 12 \div 4$

$= 0$ $= 392 \quad - 3$

$= 389$

Quiz next class → intro to exponents
→ exponent laws

Assignment: p.111 #1, 3 – 5, 8 – 13, 15 – 17