9.12.2011 Order of Operations

Order of Operations Definition: The order we use to solve equations. (The order in which we perform operations when evaluating mathematical expressions is called **order of operations**.)

Ex. $3 + 4 \cdot 2 - 6 \div 3$

$3 + 4 \cdot 2 - 6 \div 3$ Restate the Problem

$3 + 8 - 2$ Multiply and Divide (left to right)

$11 - 2 = 9$ Add and Subtract (left to right)

P – Parentheses

E – Exponents

M – Multiplication

D – Division

A – Addition

S – Subtraction

Inverse Operations: Operations are inverses if they "undo" each other.

Ex. Multiplication and Division are inverse operations

Ex. Addition and Subtractions are inverse Operations

Inverse Operations are performed left to right when following PEMDAS

Ex. $(5 + 2 \cdot 5) \div 3 \cdot 2$

$(5 + 2 \cdot 5) \div 3 \cdot 2$ Restate the Problem

$(5 + 10) \div 3 \cdot 2$ Follow PEMDAS in Parentheses by Multiplying and Dividing

$15 \div 3 \cdot 2$ Parentheses

$5 \cdot 2 = 10$ Multiply and Divide (left to right)