PEMDAS and order of operations

The order of operations is the set of rules that you use to simplify expressions in math. PEMDAS or "Please Excuse My Dear Aunt Sally" are ways to help you remember the order of operations.

Parentheses	(all symbols of inclusion)
Exponents	(powers and roots)
Multiplication/Division	(from left to right or divide first)
Addition/Subtraction	(from left to right or subtract first)

The order of operations are extremely important when computer programming and entering equations in your calculator (one misplaced set of parentheses can result in a very different answer).

Example

Use the order of operations to simplify the expression.

$$3^3 + 9 \div (5 - 2) \cdot (4)^2$$

Follow the order of operations (PEMDAS) to simplify.

Simplify Parentheses:

$$3^3 + 9 \div (3) \cdot (4)^2$$

Simplify Exponents:

$$27 + 9 \div (3) \cdot (16)$$

Multiply and Divide from left to right (or divide first):

$$27 + 3 \cdot 16$$

$$27 + 48$$

Add and Subtract from left to right (or subtract first):

$$75$$

Let's try another example using the order of operations.

Example

Use the order of operations to simplify the expression.

$$6 + 2(3x + 1)$$

Use the order of operations to simplify.

Simplify Parentheses (use the distributive property in this case):

$$6 + 6x + 2$$

All that's left is addition, so add like terms.

$6x + 8$
