ORDER OF OPERATIONS

The **order of operations** is the order in which a mathematical expression is to be simplified. Often called "PEMDAS," the order of operations is as follows:

When using PEMDAS, multiplication and division have the same level of importance.

This means that when you have both multiplication and division in a problem, you need to perform whichever operation comes first from left to right, just like reading a sentence.

Parentheses
Exponents
Multiplication
Division
Addition
Subtraction

Let's take a look at an example to see how this works: $(15 - 7) \div 4 \cdot 1$

$$(15 - 7) \div 4 \cdot 1$$
$$8 \div 4 \cdot 1$$
$$2 \cdot 1$$
$$2$$

The **p**arentheses indicate what operations must be completed first. After subtracting 7 from 15, continue following the order of operations. There are no **e**xponents, so move on to division (since it comes before the multiplication in this case). **D**ivide 8 by 4 to get 2. Then, **m**ultiply 2 by 1 to get the correct answer of 2.

Here's one more example:

Starting with the **p**arentheses, subtract 1 from 3 to get 2. Then, solve the **e**xponent 2^2 to get 4. **M**ultiply 4 by 2 to get 8, then **d**ivide 8 by 4 to get 2. Then, **a**dd 4 and 3 to get 7. Finally, **s**ubtract 6 from 7 to get the correct answer of 1.

$$2^2 \cdot (3 - 1) \div 2 + 3 - 6$$
$$2^2 \cdot 2 \div 2 + 3 - 6$$
$$4 \cdot 2 \div 2 + 3 - 6$$
$$8 \div 2 + 3 - 6$$
$$4 + 3 - 6$$
$$7 - 6$$
$$1$$