Order of Operations: PEMDAS

It's important to follow the **order of operations** when evaluating an expression. Otherwise, you might get the wrong answer! You can remember the order of operations using the acronym **PEMDAS**:

- 1. Parentheses, and other grouping symbols
- 2. Exponents
- 3. Multiplication and Division, from left to right
- 4. Addition and Subtraction, from left to right

If your problem doesn't have one of these steps, move on to the next step!

Let's try an example. Use the order of operations to evaluate $4 \times 6 + 2^2 - (4 + 3)$.

$$4 \times 6 + 2^2 - (4 + 3)$$

First, simplify what's inside the parentheses: 4 + 3 = 7.

$$4 \times 6 + 2^2 - 7$$

Then, evaluate the exponent: $2^2 = 4$.

$$4 \times 6 + 4 - 7$$

Next, multiply: $4 \times 6 = 24$.

$$24 + 4 - 7$$

Then, add: 24 + 4 = 28.

$$28 - 7 = 21$$

Finally, subtract 28 – 7 to get the answer, 21.



Evaluate each expression using the order of operations.

| 9 + 7 × 8 | 46 + 19 - 4 ² | 16 ÷ 4 + 7 |
|-----------------------------|--------------------------|----------------------------------|
| 65 | 49 | 11 |
| $10^2 \times 2 + 40 \div 8$ | 8 × 12 ÷ (30 – 6) | 64 - (8 + 12) × 3 |
| 205 | 4 | 4 |
| 21 ÷ (3 + 4) × 6 | (9 – 5) × 7 – 2 × 8 | $48 \div 6 \times 2^2 - (3 + 5)$ |
| 18 | 12 | 24 |