

 **Learning Objective:** Using order of operations to solve expressions.

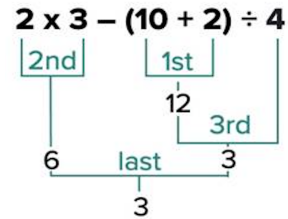
Order of Operations

BODMAS is an acronym and it stands for **B**racket, **O**rder, **M**ultiplication and **D**ivision, **A**ddition and **S**ubtraction.

It explains the order of operations to be performed while solving an expression.

Note: The “O” in the BODMAS is also called “Order”, which refers to the numbers which involve powers, square roots, etc.

Evaluate the following using order of operations:



- Complete brackets first.
- Do multiplication and division next, working from left to right.
- Do addition and subtraction last, working from left to right

Write the appropriate numerical expression to represent each statement below.

Half of the difference between thirty six and eight

Product of eight and the sum of eleven and five

One fourth of the sum of twenty three and one

Use the order of operations to solve the following expressions

$18 \div 3 + 9 \times 6 - 16$

$12 - 54 \div 6 + 7 \times 5$

$19 + 11 \times 12 - 14$

$5 + 28 - 64 \div 8$

$19 + 72 \div 4 \times 4 - 3$

$47 + 13 - 7 \times 12$



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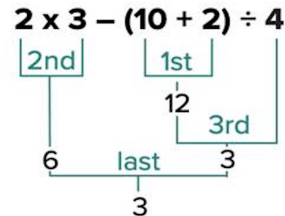
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Evaluate the following using order of operations:

$$2 \times 3 - (10 + 2) \div 4$$


- Complete brackets first.
- Do multiplication and division next, working from left to right.
- Do addition and subtraction last, working from left to right

Write the appropriate numerical expression to represent each statement below.

Half of the difference between thirty six and eight

Product of eight and the sum of eleven and five

One fourth of the sum of twenty three and one

$$\begin{aligned} (20 - 4) \div 2 \\ = 16 \div 2 \\ = 8 \end{aligned}$$

$$\begin{aligned} 8 \times (11 + 5) \\ = 8 \times 16 \\ = 128 \end{aligned}$$

$$\begin{aligned} (23 + 1) \div 4 \\ = 24 \div 4 \\ = 6 \end{aligned}$$

Use the order of operations to solve the following expressions

$$18 \div 3 + 9 \times 6 - 16$$

$$\begin{aligned} 18 \div 3 + 9 \times 6 - 16 \\ 18 \div 3 + 9 \times 6 - 16 \\ = 6 + 54 - 16 \\ = 44 \end{aligned}$$

$$12 - 54 \div 6 + 7 \times 5$$

$$\begin{aligned} 12 - 54 \div 6 + 7 \times 5 \\ = 12 - 54 \div 6 + 7 \times 5 \\ = 12 - 9 + 35 \\ = 38 \end{aligned}$$

$$19 + 11 \times 12 - 14$$

$$\begin{aligned} 19 + 11 \times 12 - 14 \\ = 19 + 11 \times 12 - 14 \\ = 19 + 132 - 14 \\ = 137 \end{aligned}$$

$$5 + 28 - 64 \div 8$$

$$\begin{aligned} 5 + 28 - 64 \div 8 \\ = 5 + 28 - 64 \div 8 \\ = 5 + 28 - 8 \\ = 25 \end{aligned}$$

$$19 + 72 \div 4 \times 4 - 3$$

$$\begin{aligned} 19 + 72 \div 4 \times 4 - 3 \\ = 19 + 72 \div 4 \times 4 - 3 \\ = 19 + 9 - 3 \\ = 31 \end{aligned}$$

$$47 + 13 - 7 \times 12$$

$$\begin{aligned} 47 + 13 - 7 \times 12 \\ = 47 + 13 - 7 \times 12 \\ = 47 + 13 - 84 \\ = -24 \end{aligned}$$