

Resource Order of Operations

Rules for mathematical operations

The order of operations defines the order in which operations are performed.

Example:

If we want to evaluate the expression $15 + [12 - (3 + 2)] - 2 \times 3^2 \div 6$ and make sure that we get the same value each time, we have to follow the general rules for the order of operations.

General Rules	
<ul style="list-style-type: none"> Operations within grouping symbols, innermost first. Grouping symbols include: <ul style="list-style-type: none"> Parentheses () Brackets [] Fraction Bar $\frac{\square}{\square}$ 	$15 + [12 - 5] - 2 \times 3^2 \div 6$ $15 + 7 - 2 \times 3^2 \div 6$
<ul style="list-style-type: none"> Exponents 	$15 + 7 - 2 \times 9 \div 6$
<ul style="list-style-type: none"> Multiplication and division, left to right 	$15 + 7 - 18 \div 6$ $15 + 7 - 3$
<ul style="list-style-type: none"> Addition and subtraction, left to right 	$22 - 3$ 19

For practice with the order of operations, you can view this free video on the Khan Academy website:

- https://www.khanacademy.org/math/arithmetic/multiplication-division/order_of_operations/v/introduction-to-order-of-operations

