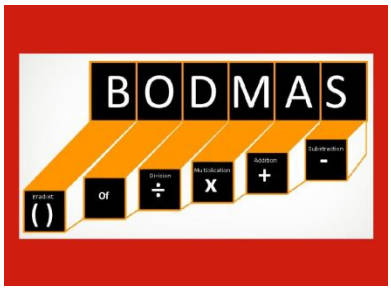
Rules of BODMASS and Types of Brackets

⇨ BODMAS is a basic rule in mathematics to solve an arithmetic expression simply. BODMAS Rule is very helpful to improve the mathematic operations easily and quickly. Some Mathematical operations where we use BODMAS Rule are given here. Those mathematical operations are addition (+), subtraction (-), multiplication (X), division (÷).

- BODMAS stands for
  B – Bracket.
  O – Of or Order.
  D – Division.
  M – Multiplication.
  A – Addition.
  S – Subtraction.



We need to follow the below-mentioned order to solve an expression:

- Firstly, we have to give priority to the Bracket terms.
- The second priority for Of or Order operation.
- The third priority for division operation.
- Fourth priority for the multiplication operation.
- Next priority for the addition operation.
- Final priority for subtraction operation.

Let us understand with some examples:

Example: Simplify the below operations by using the BODMAS Rule.

(i) 8 + 3 × 5.

(ii) Solution: The given expression is 8 + 3 × 5.
We have only two operations in the above expression. They are addition and multiplication.
As per the BODMAS Rule, we need to simplify the multiplication term first and then additional terms.
Multiplication terms are 3 × 5 = 15.
8 + 3 × 5 = 8 + 15.

Now, simplify the addition term. That is, 8 + 15 = 23.

Therefore, 8 + 3 X 5 is equal to 23.

(ii) $5 \times (2 + 6) + 6^2$.

Solution: The given expression is $5 \times (2 + 6) + 6^2$.

we have multiplication, bracket terms, and order terms in the above expression.

As per the BODMAS Rule, we need to simplify the bracket term first, next order terms, then multiplication, and finally addition terms.

Bracket terms are $(2 \times 6) = 12$.

So, $5 \times 12 + 6^2$.

Next, order terms, $6^2 = 36$.

So, $5 \times 12 + 36$.

Next, multiplication order. That is, $5 \times 12 = 60$.

That is 60 + 36.

Finally addition 60 + 36 = 96.

Therefore, $5 \times (2 + 6) + 6^2$ is equal to 96.

There are three types of brackets:

() = first bracket

{} = second bracket

[] = third bracket

The rule is that anything in the bracket should be simplified first and in accordance with the brackets. The operation of first bracket should be done first then followed by second and third bracket.

Let us understand with an example:

Example: Simplify: $[4 – \{(-5) \times (8 + 2)\}]$

$= [4 – \{(-5) \times (10)\}]$

$= [4 – \{-50\}]$

$= [4 + 50]$

$= 45$