# BODMAS

Mathematical Operation is an important concept of reasoning that is usually asked in various competitive exams.

For every type of Mathematical operations question, you must know only one rule i.e. BODMAS. It is "Brackets, Orders, Division, Multiplication, Addition, and Subtraction. It means you must solve any equation in the BODMAS order. First, open the brackets, then solve the powers or roots, then perform Division followed by multiplication, Addition and subtraction.

| **B** | **O** | **D** | **M** | **A** | **S** |
|-------|-------|-------|-------|-------|-------|
| Brackets (...) | Orders powers, roots | Division ÷ | Multiplication X | Addition + | Subtraction — |

**Q1. If × stands for -, ÷ stands for +, + stands for ÷ and − stands for ×, which one of the following equations is correct?**
    (a) $15 - 5 \div 5 \times 20 + 16 = 6$
    (b) $8 \div 10 - 3 + 5 \times 6 = 8$
    (c) $6 \times 2 + 3 \div 12 - 3 = 15$
    (d) $3 \div 7 - 5 \times 10 + 3 = 10$
    **Ans.(b)**

    **Solution.** Using the proper signs, we get:
    Expression in (a) = $15 \times 5 + 5 - 20 \div 10 = 15 \times 5 + 5 - 2 = 75 + 5 - 2 = 78$
    Expression in (b) = $8 + 10 \times 3 \div 5 - 6 = 8 + 10 \times 3/5 - 6 = 8 + 6 - 6 = 8$
    Expression in (c) = $6 - 2 \div 3 + 12 \times 3 = 6 - 2/3 + 36 = 42 - 2/3 = 124/3$
    Expression in (d) = $3 + 7 \times 5 - 10 \div 3 = 3 + 7 \times 5 - 10/3 = 3 + 35 - 10/3 = 104/3$
    ∴ Statement (b) is true.

**Q2. If '<' means 'minus', '>' means 'plus', '=' means 'multiplied by' and '$' means 'divided by', then what would be the value of 31 > 81 $ 9 < 7?**
    (a) 32

(b) 33

(c) 36

(d) None of these

Ans.(b)

**Solution.** Using the correct symbols we have:

Given expression = 31 + 81 ÷ 9 − 7 = 31 + 9 − 7 = 33

**Q3. If × means ÷, − means ×, ÷ means + and + means -, then (4 − 15 ÷ 12) × 8 + 9 = ?**

(a) -1

(b) 2

(c) 0

(d) 1

**Ans.(c)**

**Solution.** Using the correct symbols, we have:

Given expression = (4 × 15 + 12) ÷ 8 − 9 = 72 ÷ 8 − 9 = 9 − 9 = 0

**Q4. If Q means 'add to', J means 'multiply by', T means 'subtract from' and K means 'divide by', then 26 K 2 Q 3 J 6 T 4 = ?**

(a) 10

(b) 28

(c) 30

(d) 27

**Ans.(d)**

**Solution.** Using the correct symbols, we have:

Given expression = 26 ÷ 2 + 3 × 6 − 4 = 13 + 18 − 4 = 27

**Q5. If '-' stands for 'division', '+' for 'multiplication', '÷' for 'subtraction' and '×' for 'addition', which one of the following equations is correct?**

(a) 6 + 20 − 12 ÷ 7 − 1 = 38

(b) 6 − 20 ÷ 12 × 7 + 1 = 57

(c) 6 + 20 − 12 ÷ 7 × 1 = 62

(d) 6 ÷ 20 × 12 + 7 − 1 = 70

**Ans.(d)**

**Solution.** Using the proper notations in (d), we get the statement as:

$6 - 20 + 12 \times 7 \div 1 = 6 - 20 + 84 = 90 - 20 = 70$

**Q6. If L denotes ÷, M denotes ×, P denotes + and Q denotes -, then which of the following statements is true?**

    (a) 32 P 8 L 16 Q 4 =-2/3

    (b) 6 M 18 Q 26 L 13 P 7 =173/13

    (c) 11 M 34 L 17 Q 8 L 3 =38/3

    (d) 9 P 9 L 9 Q 9 M 9 = -71

    **Ans.(d)**

    **Solution.** Using the proper notations in (d), we get the statement as:

    $9 + 9 \div 9 - 9 \times 9 = 9 + 1 - 9 \times 9 = 9 + 1 - 81 = 10 - 81 = -71.$

**Q7. Which one of the four interchanges in signs and numbers would make the given equation correct?**

    $3 + 5 - 2 = 4$

    (a) + and −, 2 and 3

    (b) + and −, 2 and 5

    (c) + and −, 3 and 5

    (d) None of these

    **Ans.(c)**

    **Solution.** By making the interchanges given in (a)

    $2 - 5 + 3 = 4$ or $0 = 4$, which is false.

    By making the interchanges given in (b)

    $3 - 2 + 5 = 4$ or $6 = 4$, which is false.

    By making the interchanges given in (c)

    $5 - 3 + 2 = 4$ or $4 = 4$, which is true.

    So, the answer is (c)