



BODMAS: the order of operations

When a calculation has more than one step, everyone must do the steps in the same order or they get different answers. BODMAS is that order: Brackets, Orders, Division and Multiplication, Addition and Subtraction.

The order, with an example of each

Brackets

()

always first

- $(3 + 4) \times 2$
- $= 7 \times 2 = 14$

Orders

x^2

squares, cubes, powers: next (an extension beyond Year 6)

- $3^2 + 1$
- $= 9 + 1 = 10$

Divide and Multiply

$\div \times$

same level: work left to right

- $12 \div 3 \times 2$
- $= 4 \times 2 = 8$

Add and Subtract

$+ -$

same level: work left to right

- $10 - 4 + 2$
- $= 6 + 2 = 8$

Worked example

Work out $5 + 3 \times (8 - 2)$.

Brackets first: $8 - 2 = 6$. The calculation is now $5 + 3 \times 6$.

Multiplication before addition: $3 \times 6 = 18$. Then $5 + 18 = 23$. Doing the addition first would give $8 \times 6 = 48$, which is wrong.

The common mistake

"M comes before D in BODMAS, so always multiply before you divide."

Division and multiplication have equal priority, and so do addition and subtraction. Within each pair you work from left to right. $12 \div 3 \times 2$ is 8, not 2; $10 - 4 + 2$ is 8, not 4.

Test yourself

- ☐ 1 $2 + 3 \times 4 = ?$
- ☐ 2 $(2 + 3) \times 4 = ?$
- ☐ 3 $20 \div 5 \times 2 = ?$

Your turn

$4 + 6 \times 2 =$ _____ $(4 + 6) \times 2 =$ _____

$24 \div 4 \times 3 =$ _____ $15 - 9 + 4 =$ _____

Spot the mistake: $2 + 3 \times 5 = 25$ _____ Fill the gap: $18 \div 3 + 2 = 8$ _____

Next topic

Exam-style questions: worded problems

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Answers: 1. 14 (multiply first: $3 \times 4 = 12$, then $2 + 12 = 14$). 2. 20 (brackets first: $2 + 3 = 5$, then $5 \times 4 = 20$). 3. 8 (left to right: $20 \div 5 = 4$, then $4 \times 2 = 8$).