

Order of Operations (PEMDAS / BODMAS)

Follow this order every time you evaluate an expression. Work left to right within each level.

P

Parentheses (Brackets)

Simplify everything inside (), [], or { } first

E

Exponents (Orders)

Evaluate powers and square roots

M/D

Multiplication & Division

Work left to right, whichever comes first

A/S

Addition & Subtraction

Work left to right, whichever comes first

Worked Examples

Example 1: $3 + 4 \times 2$

$$\begin{aligned} &= 3 + 8 \text{ (multiply first)} \\ &= 11 \end{aligned}$$

Example 2: $(5 + 3) \times 2$

$$\begin{aligned} &= 8 \times 2 \text{ (parentheses first)} \\ &= 16 \end{aligned}$$

Example 3: $12 / (2 + 4) + 1$

$$\begin{aligned} &= 12 / 6 + 1 \text{ (parentheses)} \\ &= 2 + 1 \text{ (division)} \\ &= 3 \end{aligned}$$

Example 4: $2 + 3 \times (4 - 1)^2$

$$\begin{aligned} &= 2 + 3 \times 3^2 \text{ (parentheses)} \\ &= 2 + 3 \times 9 \text{ (exponent)} \\ &= 2 + 27 \text{ (multiply)} \\ &= 29 \end{aligned}$$

Common Mistakes to Avoid

- Adding before multiplying: $3 + 4 \times 2 = 11$, NOT 14
- Forgetting to do both sides of parentheses: simplify fully inside before moving on
- Doing multiplication before division (or addition before subtraction) instead of left to right

Memory trick: "Please Excuse My Dear Aunt Sally" - Parentheses, Exponents, Multiplication, Division, Addition, Subtraction.