

Order of Operations

5th Grade

PEMDAS with the two rules everyone gets wrong, worked step by step.

P

Parentheses

Work inside brackets first — innermost outwards.

E

Exponents

Powers and roots next.

MD

Multiply & Divide

Same rank — left to right, whichever comes first.

AS

Add & Subtract

Same rank — left to right, whichever comes first.

WORKED — $4 + 3 \times (8 - 5)^2 \div 9$

1. Brackets

$$8 - 5 = 3$$

$$4 + 3 \times 3^2 \div 9$$

2. Exponent

$$3^2 = 9$$

$$4 + 3 \times 9 \div 9$$

3. $\times$ then $\div$ (left to right)

$$3 \times 9 = 27, 27 \div 9 = 3$$

$$4 + 3$$

4. Add

$$4 + 3 = 7$$

$$7$$

THE TWO TRAPS

$8 \div 2 \times 4$ is 16, not 1.

Multiply and divide have equal rank — go left to right.

$10 - 3 + 2$ is 9, not 5.

So do add and subtract.