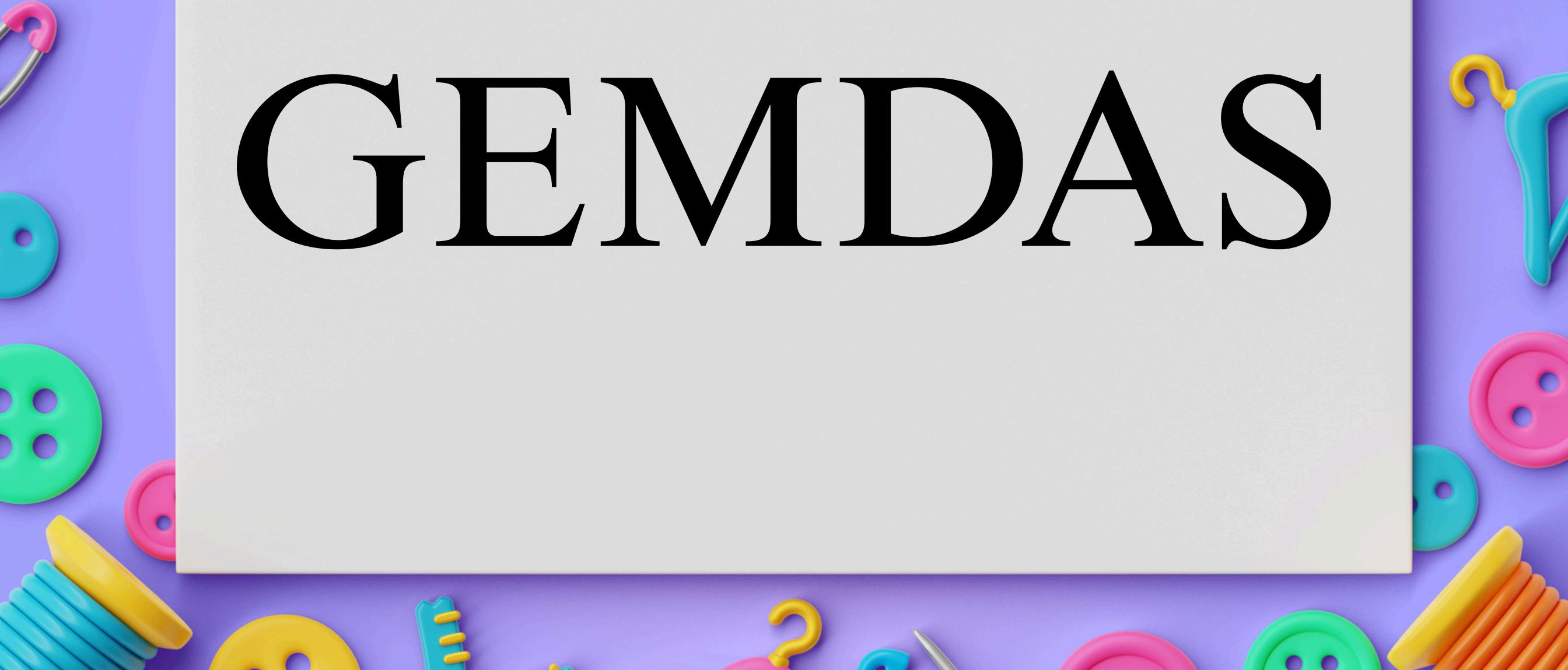


GEMDAS



GEMDAS stands for:

- **G** - Grouping symbols, which include parentheses (), brackets [], and braces { }.
- **E** - Exponents
- **M** - Multiplication
- **D** - Division
- **A** - Addition
- **S** - Subtraction

Order of operations PEMDAS

Parenthesis

Exponent 2^3

Multiplication

Division

Addition

Subtraction

Whichever comes first the operation from left to right

Whichever comes first the operation from left to right

Let's take an attention with this example

$4 + 1 \times 5$ At first look, many people mistakenly perform calculations without applying the PEMDAS rule, often leading to completely incorrect results and misinterpretations.

$$4 + 1 \times 5$$

$$4 + 1 = 5$$

$5 \times 5 = 25$ the answer is wrong

Using PEMDAS

$$4 + 1 \times 5$$

Step 1: Follow the PEMDAS rule. In this expression, there are no parentheses or exponents, so the next step is to perform multiplication.

Step 2: $4 + 1 \times 5$ therefore 1×5 is 5

Step 3: PEMDAS Next is Addition or subtraction whichever comes first from left to right. Therefore $4 + 1 \times 5$ is equal to

$$\begin{array}{r} 4 + 1 \times 5 \\ \swarrow \quad \searrow \\ 4 + 5 = 9 \end{array}$$

4 + 5 = 9 is the correct answer

Example:

$$4^2 + 4(4 - 2) - 2$$

Step 1: Observe PEMDAS we have parenthesis in
this expression

$$\begin{aligned} &4^2 + 4(4 - 2) - 2 \\ &4^2 + 4(2) - 2 \end{aligned}$$

Step 2: We have an exponent in this expression

PEMDAS

$$\begin{aligned} &4^2 + 4(2) - 2 \\ &16 + 4(2) - 2 \end{aligned}$$

Example:

$$42 + 4(4 - 2) - 2$$

Step 3: We have an Multiplication in this expression

PEMDAS

$$16 + 4(2) - 2$$

$$16 + 8 - 2$$

Step 4: Operate Addition and subtraction whichever comes first from left to right

$$16 + 8 - 2$$

$24 - 2 = 22$ is the correct answer