

Math Essentials Book 1 : **BEDMAS**

$$3^3 + (25 + 15) \times 15 - 21 = \square$$

**Simplified high school math series
created by Dale Andrews**

Math Essentials: BEDMAS

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BEDMAS

Order of Number Operations 1

What is Order of Number Operations?

When there are a series of numbers that can be added, subtracted, divided, or multiplied, the order in which you do these operations is important. It is important because you could get different answers for the same problem. **REMEMBER:** In math, there is **ONLY ONE CORRECT ANSWER!!**

For example, look at these two problems. Number 1 is solved by just moving through the problem from left to right. Number 2 is solved using BEDMAS.

$$\begin{aligned} 1) & 8 + 7 \div 3 - 1 \times 4 = \\ & 15 \div 3 - 1 \times 4 = \\ & 5 - 1 \times 4 = \\ & 4 \times 4 = 16 \end{aligned}$$

$$\begin{aligned} 2) & 8 + 6 \div 3 - 1 \times 4 = \\ & 8 + 2 - 1 \times 4 = \\ & 8 + 2 - 4 = \\ & 10 - 4 = 6 \end{aligned}$$

Question #2 is correct since the rules for BEDMAS say to do multiplication and division first before adding and subtracting.

Rules for BEDMAS

B	Brackets:	() and []	Do round brackets first, square brackets second
E	Exponents:	3^3 or 7^2 or x^5 or m^2	- the small numbers are exponents
D	Division:	\div \searrow	\rightarrow Do whichever comes first in the equation
M	Multiplication	\times \nearrow	
A	Addition	$+$ \searrow	\rightarrow Do whichever comes first in the equation
S	Subtraction	$-$ \nearrow	

Order of Number Operations 1 continued

Hidden Multiplication Signs

If you see problems that looks like this: $4(5 - 2)$ or $7(4 \times 5)$ or $11(5 + 2)$: there is a "hidden multiplication" sign (x) between the outside number and the bracket.

So $4(5 - 2)$ really means $4 \times (5 - 2)$ and

$7(4 \times 5)$ really means $7 \times (4 \times 5)$ and

$11(5 + 2)$ really means $11 \times (5 + 2)$

Examples:

$$1) \quad 36 \div 2 \times 4 = \\ 18 \times 4 = \underline{72}$$

We do the division first, then the multiplication.

$$2) \quad 4(2 + 9) = \\ 4(11) = \underline{44}$$

We do inside the brackets first, then the multiplication. Don't forget the "hidden multiplication" sign.

$$3) \quad 24 \div (2)(3) = \\ 24 \div 6 = \underline{4}$$

$$4) \quad (8)(3) + (2)(10) = \\ 24 + 20 = \underline{44}$$

do first ↓

$$5) \quad 8 + (12 \div 4 + 7) = \\ 8 + (3 + 7) = \\ 8 + (10) = \\ 8 + 10 = \underline{18}$$

do first ↓

$$6) \quad 6 + 50 \div 5 - 2 + 4 = \\ 6 + 10 - 2 + 4 = \\ 16 - 2 + 4 = \\ 14 + 4 = \underline{18}$$

Order of Number Operations 1 continued

Now You Try: SHOW ALL OF YOUR WORK.

1) $12 \div 6 \times 11 =$

2) $9(8 + 9) =$

3) $8 + 7(12 - 3) =$

4) $32 \div (4)(4) + 6 =$

5) $(7)(13) + (5)(11) - 12 =$

6) $22 + 72 \div 9 + 11 - 9$

BEDMAS 1A Questions

Score: _____ / 78 Percent: _____ % Name _____

Instructions: Simplify (find the answers) Date _____

and SHOW all steps. All Questions are worth 3 marks each.

1) $5 - (3 + 2) =$

7) $18 \div (6 \div 3) =$

2) $5 - 3 + 2 =$

8) $5(8 + 2) =$

3) $8 \div 2 \times 4 =$

9) $8 \div (6 - 2) =$

4) $36 \div (3 \times 6) =$

10) $7 + (3)(5) =$

5) $16 - 4 \times 2 =$

11) $6 \times 12 \div 9 =$

6) $18 \div 6 \div 3 =$

12) $36 - (4)(5) =$