

Order of Operations - BEDMAS

Math Model

Problem: Evaluate the following arithmetic expression:
 $3 + 4 \times 2$

Solution:

Student 1	Student 2
$3 + 4 \times 2$	$3 + 4 \times 2$
$= 7 \times 2$	$= 3 + 8$
$= 14$	$= 11$



Each student got a different answer!

Student 1 performed the operation of addition first, then multiplication
student 2 performed multiplication first, then addition.

There can be only one correct answer.

We need a set of rules:

Rule 1: First perform any calculations inside brackets/parentheses.

Rule 2: Next perform all multiplications and divisions, working from left to right.

Rule 3: Lastly, perform all additions and subtractions, working from left to right.

Example 1:

Order of Operations		
Expression	Evaluation	Operation
$6 + 7 \times 8$	$= 6 + 7 \times 8$	Multiplication
	$= 6 + 56$	Addition
	$= 62$	

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Brackets

Exponents

Division

Multiplication

Addition

Subtraction

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Independent Practice

Order of Operations Worksheet

1). $5 \times 5 - 0 + 6 - (7 \times 6)$

2). $(3 + 2) - 0 - 2$

3). $2 \times (5 + 7) - 6 + 2$

4). $7 \times 1 + 4 + (0 - 2) \times 3$

5). $7 - (5 + 5) + 2$

6). $7 \times (3 - 1)$

7). $5 - 4 \times (3 + 4)$

8). $3 - 0 \times 3 - 7 + (4 + 5)$

9). $3 \times 3 + 6 + 2 - (3 - 7)$

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Order of Operations with Integers Worksheet

Circle the part of the expression that you would complete first.

1. $-4 \times 32 + 6$

2. $3 \times (-2)^3 \div 6$

3. $(6 + 2) - 15 \div 5 \times 2$

4. $4(13 - 6)$

5. $8 - 4(2 + 5^2) \div 12$

Simplify.

1. $42 \div 6 + 5$

7. $64 \div 4(2 - 6)$

8. $4(-12 + 6) \div 3$

9. $-12^2 \div 4 - 3 \times 2^4$

10. $6 \times 8 - (4^2 + 2) + 72 \div 8$

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11. $6^2 + 14 \div 2 - 8$

12. $9 \div 3 + 7 \times 4 \div 2$

13. $12 \div 6 + 5^2 \times 3$

14. $-4(1 + 5)^2 \div 6 - (42 + 5)$

15. $7(5 + 3) \div 4(9 - 2)$

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Place a greater than >, less than <, or equal to = symbol between the two equations.

16. $3^3 + 5 \times 3$ _____ $2 + 8(35 \div 7)$

17. $8 \times (-2) - (-4)^2$ _____ $34 \div 9 + 2 \times 5$

18. $5 \times 2^2 - 2^3(-6+3)$ _____ $6(2 + 9) - 3^3 \div 9 - 4$

19. A submarine started to submerge. It went down 90m. Then it rose 56 m. It then descended 20 m. Describe its final position.

20. The altitude of an airplane is +3560 m. The altitude of a submarine is -1750m. How far (hint....difference) above the submarine is the airplane?