

Order Of Operations Worksheet Questions and Answers PDF

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Part 1: Building a Foundation

What does the acronym PEMDAS stand for?

Hint: Think about the order of operations in mathematics.

- Parentheses, Exponents, Multiplication, Division, Addition, Subtraction** ✓
- Parentheses, Exponents, Multiplication, Division, Subtraction, Addition
- Parentheses, Exponents, Division, Multiplication, Addition, Subtraction
- Parentheses, Exponents, Addition, Subtraction, Multiplication, Division

PEMDAS stands for Parentheses, Exponents, Multiplication, Division, Addition, Subtraction.

Which of the following operations should be performed first according to the order of operations?

Hint: Consider the hierarchy of operations.

- Multiplication
- Addition
- Parentheses** ✓
- Exponents

According to the order of operations, Parentheses should be performed first.

Explain why the order of operations is important in mathematics. Provide an example to illustrate your explanation.

Hint: Think about how different operations can lead to different results.

The order of operations is crucial to ensure consistent results in calculations. For example, in the expression $2 + 3 \times 4$, if you add first, you get 20 instead of the correct answer, 14.

List the operations in the order they should be performed according to PEMDAS.

Hint: Remember the acronym PEMDAS.

1. What is the first operation?

Parantheses

2. What is the second operation?

Exponents

3. What is the third operation?

Multiplication

The operations should be performed in the following order: Parentheses, Exponents, Multiplication, Division, Addition, Subtraction.

Part 2: comprehension and Application

If you have the expression $8 + (3 \times 2)^2$, what is the first step you should take to solve it?

Hint: Look for operations inside parentheses.

- Add 8 and 3
- Multiply 3 and 2 ✓
- Square the result of 3×2
- Solve the expression inside the parentheses

█ The first step is to solve the expression inside the parentheses, which is 3×2 .

Which of the following expressions are equivalent to $3 + 6 \times (5 + 4) \div 3 - 7$?

Hint: Consider the order of operations when simplifying.

- $3 + 6 \times 9 \div 3 - 7$ ✓
- $3 + 54 \div 3 - 7$
- $3 + 18 - 7$ ✓
- 14

█ The equivalent expressions are those that simplify to the same result as the original expression.

Create a real-world scenario where applying the order of operations is necessary to solve a problem. Explain the steps involved.

Hint: Think about everyday situations that require calculations.

█ A real-world scenario could involve budgeting, where you need to calculate total expenses using the order of operations to ensure accuracy.

Solve the expression: $4 \times (6 + 2) - 3^2$.

Hint: Follow the order of operations carefully.

- 19

- 25 ✓
 31
 37

■ The correct answer is 25 after following the order of operations.

Part 3: Analysis, Evaluation, and Creation

Analyze the expression $7 + 4 \times 3 - 2^2$ and determine the correct result.

Hint: Remember to follow the order of operations.

- 17
 19 ✓
 21
 23

■ The correct result of the expression is 19.

Which of the following steps are necessary to correctly solve the expression $10 - (2 + 3) \times 4 \div 2$?

Hint: Think about the order of operations and the steps involved.

- Solve inside the parentheses first ✓
 Multiply before dividing
 Subtract after multiplying and dividing ✓
 Divide before multiplying

■ The necessary steps include solving inside the parentheses first, then multiplying and dividing.

Evaluate the correctness of the following solution: $6 + 2 \times (3 + 5) - 4 = 18$. Explain your reasoning.

Hint: Check each step of the calculation.

The solution is incorrect; the correct answer is 10. The order of operations was not followed properly.

Design your own mathematical expression that uses all operations (addition, subtraction, multiplication, division, exponents, and parentheses). Solve it and explain each step according to the order of operations.

Hint: Think creatively about how to combine different operations.

An example expression could be $(2 + 3) \times 4 - 5 \div 1 + 2^3$. Each step should follow the order of operations.