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Order Of Operations Worksheet Answer Key PDF

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Part 1: Building a Foundation

What does the acronym PEMDAS stand for?

undefined. Parentheses, Exponents, Multiplication, Division, Addition, Subtraction ✓

undefined. Parentheses, Exponents, Multiplication, Division, Subtraction, Addition

undefined. Parentheses, Exponents, Division, Multiplication, Addition, Subtraction

undefined. 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?

undefined. Multiplication

undefined. Addition

undefined. Parentheses ✓

undefined. 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.

The order of operations is crucial to ensure consistent results in calculations. For example, in the expression 2 + 3 × 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.

1. What is the first operation?

Parentheses

2. What is the second operation?

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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 × 2)^2, what is the first step you should take to solve it?

undefined. Add 8 and 3

undefined. Multiply 3 and 2 ✓

undefined. Square the result of 3 × 2

undefined. 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 × (5 + 4) ÷ 3 - 7?

undefined. 3 + 6 × 9 ÷ 3 - 7 ✓

undefined. 3 + 54 ÷ 3 - 7

undefined. 3 + 18 - 7 ✓

undefined. 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.

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 × (6 + 2) - 3^2.

undefined. 19

undefined. 25 ✓

undefined. 31

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undefined. 37

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

Part 3: Analysis, Evaluation, and Creation

Analyze the expression 7 + 4 × 3 - 2^2 and determine the correct result.

undefined. 17

undefined. 19 ✓

undefined. 21

undefined. 23

The correct result of the expression is 19.

Which of the following steps are necessary to correctly solve the expression 10 - (2 + 3) × 4 ÷ 2?

undefined. Solve inside the parentheses first ✓

undefined. Multiply before dividing

undefined. Subtract after multiplying and dividing ✓

undefined. 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 × (3 + 5) - 4 = 18. Explain your reasoning.

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.

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

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