Order Of Operations Worksheets

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Part 1: Building a Foundation

Which of the following correctly represents the order of operations?

Hint: Think about the acronym PEMDAS.

- ◯ A) Addition, Subtraction, Multiplication, Division, Parentheses, Exponents
- ◯ B) Parentheses, Exponents, Multiplication and Division, Addition and Subtraction
- ◯ C) Multiplication, Division, Addition, Subtraction, Parentheses, Exponents
- ◯ D) Exponents, Parentheses, Addition, Subtraction, Multiplication, Division

Which of the following are true about the order of operations? (Select all that apply)

Hint: Consider the rules that govern mathematical calculations.

- ☐ A) It ensures consistent results in calculations.
- ☐ B) Multiplication always comes before division.
- ☐ C) Parentheses are solved first.
- ☐ D) Addition is always performed before subtraction.

Explain why the order of operations is important in mathematics.

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

List the steps in the PEMDAS order of operations.

Hint: Remember the acronym PEMDAS.

1. What is the first step?

2. What is the second step?

3. What is the third step?

4. What is the fourth step?

Which operation should be performed first in the expression 8 + (3 × 2)^2?

Hint: Look for the parentheses in the expression.

- ◯ A) Addition
- ◯ B) Multiplication
- ◯ C) Exponentiation
- ◯ D) Parentheses

Part 2: Application and Analysis

What is the result of the expression 7 + 3 × (10 - 4)^2 ÷ 2?

Hint: Follow the order of operations carefully.

- ◯ A) 52
- ◯ B) 61
- ◯ C) 73
- ◯ D) 85

Which of the following expressions equal 50? (Select all that apply)

Hint: Evaluate each expression carefully.

- ☐ A) 5 × (8 + 2)
- ☐ B) (100 ÷ 2) + 5
- ☐ C) 10 × 5

- [ ] D) 60 - (2 × 5)

Calculate the value of the expression 2 × (3 + 5) - 4^2 and explain each step.

Hint: Break down the expression step by step.

In the expression 2 × [3 + (4 × 2) - 5]^2, which operation is performed last?

Hint: Identify the last operation according to the order of operations.

- ◯ A) Multiplication
- ◯ B) Addition
- ◯ C) Exponentiation
- ◯ D) Subtraction

Identify the errors in the following solution: 3 + 6 × (5 + 4) ÷ 3 - 7 = 3 + 6 × 9 ÷ 3 - 7 = 3 + 54 ÷ 3 - 7 = 3 + 18 - 7 = 14. (Select all that apply)

Hint: Review the calculations step by step.

- [ ] A) Incorrect multiplication
- [ ] B) Incorrect division
- [ ] C) Incorrect subtraction
- [ ] D) Incorrect order of operations

Part 3: Evaluation and Creation

Which expression will result in the highest value?

Hint: Evaluate each expression carefully.

- ◯ A) (2 + 3) × 4^2
- ◯ B) 2 + (3 × 4)^2
- ◯ C) (2 × 3 + 4)^2

◯ D) 2 × (3 + 4)^2

Evaluate the following expressions and select those that are equivalent to 64. (Select all that apply)

Hint: Calculate each expression to find the equivalent ones.

☐ A) 4 × (3 + 5)^2
☐ B) (8 × 2)^2 ÷ 4
☐ C) 2^6
☐ D) 16 × 4

Create your own mathematical expression using the order of operations that results in 100. Explain the steps to solve it.

Hint: Think creatively about how to combine operations.

Reflect on a real-world scenario where the order of operations is crucial. Describe the scenario and explain how you would apply the order of operations to solve a problem within it.

Hint: Consider situations in finance, construction, or science.