Integer Operations Worksheet

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Part 1: Building a Foundation

What is the definition of an integer?

Hint: Think about the types of numbers.

- ◯ A) A fraction
- ◯ B) A whole number that can be positive, negative, or zero
- ◯ C) A decimal number
- ◯ D) A positive number only

Which of the following are examples of integers? (Select all that apply)

Hint: Consider whole numbers, both positive and negative.

- ☐ A) -5
- ☐ B) 0
- ☐ C) 3.14
- ☐ D) 7

Explain the rule for adding two integers with different signs.

Hint: Think about how you combine positive and negative values.

List the steps in the order of operations using the acronym PEMDAS/BODMAS.

Hint: Remember the order in which operations should be performed.

1. What does P stand for?

2. What does E stand for?

3. What does MD stand for?

4. What does AS stand for?

Part 2: Comprehension and Application

When subtractING integers, what is the equivalent operation?

Hint: Think about how subtraction can be represented.

- ◯ A) Multiplying by zero
- ◯ B) Adding the opposite
- ◯ C) Dividing by two
- ◯ D) SubtractING the same number

Which properties apply to the addition of integers? (Select all that apply)

Hint: Consider the different properties of addition.

- ☐ A) Commutative Property
- ☐ B) Associative Property
- ☐ C) DistributIVE Property
- ☐ D) Identity Property

Describe how a number line can be used to add the integers -3 and 5.

Hint: Think about the movement on the number line.

What is the result of the operation (-7) + 4?

Hint: Consider the signs of the numbers involved.

- ◯ A) -11
- ◯ B) -3
- ◯ C) 3
- ◯ D) 11

Which of the following expressions correctly apply the distributIVE property? (Select all that apply)

Hint: Think about how to distribute multiplication over addition.

- ☐ A) 3(4 + 5) = 3*4 + 3*5
- ☐ B) 2(6 - 3) = 2*6 - 2*3
- ☐ C) 5 + (2*3) = 5*2 + 5*3
- ☐ D) 4(3 + 2) = 4*3 + 4*2

Solve the expression 2(3 - 5) + 4 using the order of operations and explain each step.

Hint: Break down the expression step by step.

Part 3: Analysis, Evaluation, and Creation

If a number is multiplied by -1, what is the effect on the number?

Hint: Consider how multiplication affects the sign of a number.

- ◯ A) It becomes zero
- ◯ B) It becomes positive
- ◯ C) It becomes negative
- ◯ D) It changes sign

Analyze the following operations and determine which are correct. (Select all that apply)

Hint: Evaluate each operation carefully.

- ☐ A) (-3) * (-2) = 6
- ☐ B) 4 ÷ (-2) = -2
- ☐ C) (-5) + (-5) = -10
- ☐ D) 7 - (-3) = 4

Break down the expression (-2) * (3 + 4) and explain the steps to solve it using the distributIVE property.

Hint: Think about how to distribute the multiplication.

Which statement best evaluates the expression 5 - (2 + 3)?

Hint: Consider the order of operations.

- ◯ A) The result is positive
- ◯ B) The result is zero
- ◯ C) The result is negative
- ◯ D) The result is undefined

Evaluate the following scenarios and determine which involve integer operations. (Select all that apply)

Hint: Think about the context of each scenario.

- ☐ A) Calculating the balance after a withdrawal from a bank account
- ☐ B) Measuring the temperature change from morning to afternoon

- [ ] C) Finding the average of a set of decimal numbers
- [ ] D) Determining the distance traveled by a car

Create a real-world problem involving the addition and subtraction of integers, and solve it. Provide a detailed explanation of your solution process.

Hint: Think about a scenario that requires both operations.