Adding And Subtracting Integers Worksheet Questions and Answers PDF

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Part 1: Building a Foundation

What is the result of adding two negative integers?

Hint: Consider the signs of the integers involved.

- ◯ A) Positive
- ◯ **B) Negative ✓**
- ◯ C) Zero
- ◯ D) Undefined

> The result of adding two negative integers is always negative.

Which of the following are integers?

Hint: Identify the whole numbers, including negatives.

- ☐ **A) -3 ✓**
- ☐ B) 0.5
- ☐ **C) 7 ✓**
- ☐ D) 2.5

> Integers include whole numbers and their negatives, excluding fractions and decimals.

Explain what an integer is and provide three examples.

Hint: Think about whole numbers and their negatives.

An integer is a whole number that can be positive, negative, or zero. Examples include -1, 0, and 5.

List the steps involved in subtractING one integer from another.

Hint: Think about the process of subtraction.

1. Step 1

Identify the integers.

2. Step 2

Determine the operation.

3. Step 3

Calculate the result.

The steps include identifying the integers, determining the operation, and calculating the result.

What is the opposite of the integer -8?

Hint: Consider the definition of opposites in integers.

- **A) 8 ✓**
- B) -8

◯ C) 0
◯ D) 16

The opposite of -8 is 8.

Part 2: Understanding and Interpretation

When adding a positive integer to a negative integer, what determines the sign of the result?

Hint: Think about the absolute values of the integers.

◯ **A) The larger absolute value ✓**
◯ B) The smaller absolute value
◯ C) The number of digits
◯ D) The sum of the integers

The sign of the result is determined by the larger absolute value.

Which of the following statements are true about the number line?

Hint: Consider the direction of movement on the number line.

☐ **A) Moving right indicates addition. ✓**
☐ **B) Moving left indicates subtraction. ✓**
☐ **C) Zero is at the center. ✓**
☐ D) Negative numbers are to the right of zero.

True statements include that moving right indicates addition and moving left indicates subtraction.

Describe how you would use a number line to solve the equation 3 - 5.

Hint: Think about the movements on the number line.

You would start at 3 and move 5 units to the left to find the result.

Part 3: Application and Analysis

If the temperature is -2°C and it drops by 5°C, what is the new temperature?

Hint: Consider how temperature changes relate to integers.

- ◯ A) 3°C
- ◯ B) -3°C
- ◯ **C) -7°C ✓**
- ◯ D) 7°C

The new temperature is -7°C after the drop.

Which of the following expressions result in a positive integer?

Hint: Evaluate each expression carefully.

- ☐ **A) -4 + 6 ✓**
- ☐ B) 5 - 8
- ☐ **C) 3 + 2 ✓**
- ☐ **D) -7 + 10 ✓**

The expressions that result in a positive integer are -4 + 6, 3 + 2, and -7 + 10.

A submarine is at a depth of 300 meters below sea level. It ascends 150 meters. What is its new position relative to sea level?

Hint: Think about how depth changes relate to integers.

The new position of the submarine is 150 meters below sea level.

Which of the following expressions is equivalent to 7 - (-3)?

Hint: Consider the rules of subtractING negative numbers.

- ◯ **A) 7 + 3 ✓**
- ◯ B) 7 - 3
- ◯ C) -7 + 3
- ◯ D) -7 - 3

> The expression 7 - (-3) is equivalent to 7 + 3.

Analyze the following statements and select those that correctly describe properties of integer operations:

Hint: Think about the properties of addition and subtraction.

- ☐ **A) The sum of an integer and its opposite is zero. ✓**
- ☐ **B) SubtractING an integer is the same as adding its opposite. ✓**
- ☐ C) The product of two negative integers is negative.
- ☐ **D) Zero is the identity element for addition. ✓**

> Correct statements include that the sum of an integer and its opposite is zero and subtractING an integer is the same as adding its opposite.

Explain why subtractING a negative integer is equivalent to adding a positive integer.

Hint: Consider the rules of integer operations.

> **SubtractING a negative integer changes the operation to addition, thus making it equivalent to adding a positive integer.**

Part 4: Evaluation and Creation

Which of the following scenarios correctly applies the concept of integer subtraction?

Hint: Think about real-life situations involving decreases.

- ◯ A) A bank account balance decreases by $50 after a deposit.
- ◯ B) A temperature increases by 10°C when it drops by 10°C.
- ◯ **C) A mountain climber descends 200 meters and then ascends 200 meters, returning to the original height.** ✓
- ◯ D) A vehicle moves forward 10 meters and then reverses 10 meters, ending up 20 meters from the start.

> The scenario where a mountain climber descends 200 meters and then ascends 200 meters, returning to the original height, correctly applies integer subtraction.

Create an expression that represents the following scenario: A hiker starts at an elevation of 100 meters, climbs 50 meters, descends 30 meters, and then climbs another 20 meters.

Hint: Think about how to represent elevation changes mathematically.

- ☐ **A) 100 + 50 - 30 + 20** ✓
- ☐ B) 100 - 50 + 30 - 20
- ☐ C) 100 + 50 + 30 + 20
- ☐ D) 100 - 50 - 30 + 20

> The correct expression is 100 + 50 - 30 + 20.

Design a real-world problem involving the addition and subtraction of integers, and provide a solution.

Hint: Think about a scenario that includes both operations.

> **An example could be a bank account where $200 is deposited and then $50 is withdrawn, resulting in a balance of $150.**