Subtracting Integers Worksheet Questions and Answers PDF

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Part 1: Building a Foundation

What is the definition of an integer?

Hint: Think about the types of numbers that can be classified as integers.

- ◯ A) A fraction
- ◯ **B) A whole number that can be positive, negative, or zero ✓**
- ◯ C) A decimal number
- ◯ D) A number with a square root

> An integer is a whole number that can be positive, negative, or zero.

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

Hint: Identify the numbers that fit the definition of integers.

- ☐ **A) -3 ✓**
- ☐ **B) 0 ✓**
- ☐ C) 2.5
- ☐ **D) 7 ✓**

> The integers are -3, 0, and 7.

Explain the rule for subtractING a negative integer from another integer.

Hint: Consider how subtraction interacts with negative numbers.

SubtractING a negative integer is equivalent to adding its positive counterpart.

List the steps involved in subtractING integers using the number line.

Hint: Think about how you would visualize the subtraction process.

1. Step 1

Identify the first integer.

2. Step 2

Locate the second integer.

3. Step 3

Move left for subtraction.

The steps include identifying the integers, locating them on the number line, and moving left or right based on the operation.

Part 2: Understanding and Interpretation

Which statement correctly describes the result of subtractING a larger positive integer from a smaller positive integer?

Hint: Consider the implications of subtractING larger numbers.

- ◯ A) The result is always positive.
- ◯ B) The result is always zero.
- ◯ **C) The result is always negative. ✓**
- ◯ D) The result is always a fraction.

> The result is always negative.

When subtractING integers, which of the following statements are true? (Select all that apply)

Hint: Think about the properties of subtraction.

- ☐ **A) SubtractING a positive integer is the same as adding a negative integer. ✓**
- ☐ **B) SubtractING a negative integer is the same as adding a positive integer. ✓**
- ☐ C) SubtractING zero from any integer changes the integer.
- ☐ **D) SubtractING an integer from itself results in zero. ✓**

> The true statements include subtractING a positive integer is like adding a negative integer, and subtractING an integer from itself results in zero.

Describe how the number line can be used to solve the subtraction problem 5 - (-3).

Hint: Think about how you would visualize this operation on a number line.

> **You would start at 5 and move to the right 3 units, resulting in 8.**

Part 3: Application and Analysis

What is the result of the subtraction -4 - 6?

Hint: Consider how subtractING a positive integer affects a negative integer.

- ◯ A) 10
- ◯ **B) -10 ✓**
- ◯ C) 2
- ◯ D) -2

> The result is -10.

Which of the following problems involve subtractING a negative integer? (Select all that apply)

Hint: Identify the problems that include a negative integer in the subtraction.

- ☐ A) 8 - 5
- ☐ **B) 7 - (-2) ✓**
- ☐ C) -3 - 4
- ☐ **D) -6 - (-1) ✓**

> The problems that involve subtractING a negative integer are 7 - (-2) and -6 - (-1).

Solve the subtraction problem -9 - (-4) and explain your reasoning.

Hint: Think about how subtractING a negative integer affects the result.

> **The result is -5 because subtractING -4 is the same as adding 4.**

Part 4: Evaluation and Creation

If x - y = z, which of the following must be true?

Hint: Consider how to rearrange the equation to isolate x.

- ◯ **A) x = y + z ✓**
- ◯ B) x = y - z
- ◯ C) x = z - y
- ◯ D) x = -y - z

> The correct statement is x = y + z.

Analyze the following statements and identify which are correct regarding integer subtraction. (Select all that apply)

Hint: Evaluate the properties of integer subtraction.

- ☐ **A) SubtractING a negative integer always results in a larger integer. ✓**
- ☐ **B) SubtractING a positive integer always results in a smaller integer. ✓**
- ☐ **C) The subtraction of two negative integers can result in a positive integer. ✓**
- ☐ **D) SubtractING zero from any integer results in the same integer. ✓**

> The correct statements are A, B, C, and D.

Analyze the subtraction -5 - 7 and explain why the result is negative.

Hint: Consider the values of the integers involved.

> **The result is negative because you are subtractING a larger positive integer from a smaller negative integer.**

Which subtraction problem will result in the smallest integer?

Hint: Consider the values of each option carefully.

- ◯ A) 3 - 7
- ◯ **B) -2 - 5 ✓**
- ◯ C) -8 - (-3)
- ◯ D) 0 - 6

The problem -8 - (-3) results in the smallest integer.

Evaluate the following scenarios and determine which involve a change in direction on the number line. (Select all that apply)

Hint: Think about how movement on the number line works.

- [x] **A) Moving from 5 to -3 ✓**
- [x] **B) Moving from -2 to 4 ✓**
- [x] **C) Moving from 0 to -5 ✓**
- [ ] D) Moving from -7 to -7

The scenarios that involve a change in direction are A, B, and C.

Create a real-world scenario where subtractING integers is necessary, and explain how you would solve it using the rules of integer subtraction.

Hint: Think about situations where you might lose or owe something.

An example could be tracking expenses where you subtract costs from your budget.