# Integers Worksheet Questions and Answers PDF

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## Part 1: Foundational Knowledge

**What is the definition of an integer?**

*Hint: Think about the characteristics of whole numbers.*

- ◯ A) A number that includes fractions and decimals
- ◯ **B) A whole number that can be positive, negative, or zero ✓**
- ◯ C) A number that is always positive
- ◯ D) A number that is always negative

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

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

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

*Hint: Consider the fundamental properties of addition and multiplication.*

- [ ] **A) Closure ✓**
- [ ] **B) Reflexie Property ✓**
- [ ] **C) Commutative Property ✓**
- [ ] **D) Associative Property ✓**

> The properties of integers include closure, reflexivity, commutativity, and associativity.

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

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> The properties of integers include closure, reflexivity, commutativity, and associativity.

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

*Hint: Consider the fundamental properties of integer operations.*

- [ ] **A) Closure ✓**
- [ ] **B) Reflexivity ✓**
- [ ] **C) Commutative Property ✓**
- [ ] **D) Associative Property ✓**

> The properties of integers include closure, reflexivity, commutativity, and associativity.

**Explain the commutative property of addition in your own words.**

*Hint: Think about how changing the order of numbers affects the sum.*

**The commutative property of addition states that changing the order of the addends does not change the sum.**

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**The commutative property of addition states that changing the order of the addends does not change the sum.**

**On a number line, which direction do you move to find a greater integer?**

*Hint: Think about the arrangement of numbers on the line.*

- ◯ A) Left
- ◯ **B) Right ✓**
- ◯ C) Up
- ◯ D) Down

> To find a greater integer, you move to the right on the number line.

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## Part 2: Understanding and Interpretation

**Which of the following statements are true about the number line? (Select all that apply)**

*Hint: Consider the properties of the number line.*

- ☐ **A) Zero is the neutral point. ✓**
- ☐ B) Numbers to the left are greater.
- ☐ **C) Numbers to the right are greater. ✓**
- ☐ D) It only includes positive numbers.

> True statements about the number line include that zero is the neutral point and numbers to the right are greater.

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> True statements about the number line include that zero is the neutral point and numbers to the right are greater.

**Describe how you would use the number line to compare the integers -5 and 3.**

*Hint: Think about their positions on the number line.*

> **To compare -5 and 3 on the number line, you would see that -5 is to the left of 0 and 3 is to the right, indicating that 3 is greater than -5.**

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*Hint: Think about the positions of these integers on the number line.*

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*Hint: Think about the positions of these integers on the number line.*

> **To compare -5 and 3 on the number line, -5 is to the left of 0 and 3 is to the right, indicating that 3 is greater than -5.**

**What is the absolute value of -7?**

*Hint: Consider the distance from zero on the number line.*

- ◯ A) -7
- ◯ B) 0
- ◯ **C) 7 ✓**
- ◯ D) 14

> The absolute value of -7 is 7, as it represents the distance from zero.

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> The absolute value of -7 is 7, as it represents the distance from zero.

## Part 3: Applying Knowledge

**Apply the distributative property to simplify the expression: 3(4 + 5).**

*Hint: Think about how to distribute the 3 across the terms in the parentheses.*

> **Using the distributative property, 3(4 + 5) simplifies to 3*4 + 3*5 = 12 + 15 = 27.**

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**Using the distributative property, 3(4 + 5) simplifies to 3*4 + 3*5 = 12 + 15 = 27.**

**If you subtract -4 from 7, what is the result?**

*Hint: Remember that subtractting a negative is the same as adding.*

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

Subtractting -4 from 7 gives you 7 + 4 = 11.

**If you subtract -4 from 7, what is the result?**

*Hint: Think about how subtract ing a negative number affects the result.*

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

> Subtract ing -4 from 7 results in 11, as subtract ing a negative is equivalent to adding.

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

> Subtract ing -4 from 7 results in 11, as it is equivalent to 7 + 4.

**Which of the following operations will result in a positive integer? (Select all that apply)**

*Hint: Consider the effects of each operation on the integers involved.*

- ☐ **A) -2 * -3 ✓**
- ☐ B) 5 + (-5)
- ☐ **C) 6 - (-2) ✓**
- ☐ D) -7 + 7

> The operations that result in a positive integer include multiplying two negative integers and adding a positive integer to a negative integer.

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- ☐ **A) -2 * -3 ✓**
- ☐ B) 5 + (-5)
- ☐ **C) 6 - (-2) ✓**
- ☐ D) -7 + 7

> The operations that result in a positive integer include -2 * -3 and 6 - (-2).

**Which of the following operations will result in a positive integer? (Select all that apply)**

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- ☐ **A) -2 * -3 ✓**
- ☐ B) 5 + (-5)

- [x] **C) 6 - (-2) ✓**
- [ ] D) -7 + 7

> The operations that result in a positive integer include multiplying two negative integers and adding a positive integer to a negative integer.

## Part 4: Analyzing Relationships

**Analyze the expression 2(-3 + 4) and explain each step to find the result.**

*Hint: Break down the expression into manageable parts.*

> **To analyze 2(-3 + 4), first calculate -3 + 4 = 1, then multiply by 2 to get 2 * 1 = 2.**

**Analyze the expression 2(-3 + 4) and explain each step to find the result.**

*Hint: Break down the expression step by step.*

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**Analyze the expression 2(-3 + 4) and explain each step to find the result.**

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**To analyze 2(-3 + 4), first calculate -3 + 4 = 1, then multiply by 2 to get 2.**

**Which property is illustrated by the equation 6 + (4 + 2) = (6 + 4) + 2?**

*Hint: Consider the grouping of numbers in addition.*

- ◯ A) Commutative Property
- ◯ **B) Associative Property ✓**
- ◯ C) Distributative Property
- ◯ D) Closure Property

The equation illustrates the Associative Property, which states that the way numbers are grouped does not change the sum.

**Which property is illustrated by the equation 6 + (4 + 2) = (6 + 4) + 2?**

*Hint: Consider the properties of addition.*

- ◯ A) Commutative Property
- ◯ **B) Associative Property ✓**
- ◯ C) Distributative Property
- ◯ D) Closure Property

The equation illustrates the Associative Property of addition.

**Which property is illustrated by the equation 6 + (4 + 2) = (6 + 4) + 2?**

*Hint: Consider the properties of addition.*

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- ◯ D) Closure Property

> The equation illustrates the Associative Property of addition.

## Part 5: Synthesis and Reflection

**Evaluate the expression -8 + 3 * (2 - 5) and explain your reasoning.**

*Hint: Break down the expression step by step.*

> **To evaluate -8 + 3 * (2 - 5), first calculate (2 - 5) = -3, then multiply by 3 to get -9, and finally add -8 to get -17.**

**Evaluate the expression -8 + 3 * (2 - 5) and explain your reasoning.**

*Hint: Consider the order of operations when evaluating.*

> **To evaluate -8 + 3 * (2 - 5), first calculate (2 - 5) = -3, then multiply by 3 to get -9, and finally add -8 to get -17.**

**Evaluate the expression -8 + 3 * (2 - 5) and explain your reasoning.**

*Hint: Follow the order of operations carefully.*

**Evaluating -8 + 3 * (2 - 5) gives -8 + 3 * -3 = -8 - 9 = -17.**

**Which of the following scenarios best illustrates the use of integers in real life? (Select all that apply)**

*Hint: Think about situations where positive and negative values are used.*

- [ ] **A) Calculating temperature changes ✓**
- [ ] B) Measuring the height of a building
- [ ] **C) Tracking bank account balances ✓**
- [ ] **D) Determining the speed of a car ✓**

> Scenarios that illustrate the use of integers include calculating temperature changes, tracking bank account balances, and determining the speed of a car.

**Which of the following scenarios best illustrates the use of integers in real life? (Select all that apply)**

*Hint: Consider practical applications of integers.*

- [ ] **A) Calculating temperature changes ✓**
- [ ] B) Measuring the height of a building
- [ ] **C) Tracking bank account balances ✓**
- [ ] D) Determining the speed of a car

> Scenarios that illustrate the use of integers include calculating temperature changes and tracking bank account balances.

**Which of the following scenarios best illustrates the use of integers in real life? (Select all that apply)**

*Hint: Think about situations where positive and negative values are used.*

- [ ] **A) Calculating temperature changes ✓**
- [ ] B) Measuring the height of a building
- [ ] **C) Tracking bank account balances ✓**

- [ ] D) Determining the speed of a car

> Scenarios that illustrate the use of integers include calculating temperature changes and tracking bank account balances.

**Create a real-world problem that involves adding and subtractting integers, and solve it.**

*Hint: Think about a scenario that includes both positive and negative values.*

> **An example problem could be: 'You have $20, and you spend $15, then earn $10. How much do you have now?' The solution is $20 - $15 + $10 = $15.**

**Create a real-world problem that involves adding and subtract ing integers, and solve it.**

*Hint: Think about a scenario that requires both addition and subtraction.*

> **An example problem could be: If you have $20 and spend $15, how much do you have left? The solution is $5.**

**Create a real-world problem that involves adding and subtract ing integers, and solve it.**

*Hint: Think about a scenario that requires both addition and subtraction.*

**An example problem could involve tracking expenses and income, such as spending $20 and earning $50, resulting in a net gain of $30.**