

# Integer Operations Worksheet Answer Key PDF

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## Part 1: Building a Foundation

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### What is the definition of an integer?

undefined. A) A fraction

**undefined. B) A whole number that can be positive, negative, or zero ✓**

undefined. C) A decimal number

undefined. D) A positive number only

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

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

**undefined. A) -5 ✓**

**undefined. B) 0 ✓**

undefined. C) 3.14

**undefined. D) 7 ✓**

Examples of integers include -5, 0, and 7.

### Explain the rule for adding two integers with different signs.

**When adding integers with different signs, subtract the smaller absolute value from the larger absolute value and take the sign of the integer with the larger absolute value.**

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

1. What does P stand for?

**Parentheses**

2. What does E stand for?

## Exponents

3. What does MD stand for?

**Multiplication and Division**

4. What does AS stand for?

**Addition and Subtraction**

The order of operations is Parentheses, Exponents, Multiplication and Division (from left to right), Addition and Subtraction (from left to right).

## Part 2: Comprehension and Application

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**When subtractING integers, what is the equivalent operation?**

undefined. A) Multiplying by zero

**undefined. B) Adding the opposite ✓**

undefined. C) Dividing by two

undefined. D) SubtractING the same number

SubtractING integers is equivalent to adding the opposite.

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

**undefined. A) Commutative Property ✓**

**undefined. B) Associative Property ✓**

undefined. C) Distributive Property

**undefined. D) Identity Property ✓**

The properties that apply to the addition of integers include Commutative Property, Associative Property, and Identity Property.

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

**To add -3 and 5 on a number line, start at -3 and move 5 units to the right, landing on 2.**

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

undefined. A) -11

undefined. B) -3 ✓

undefined. C) 3

undefined. D) 11

The result of  $(-7) + 4$  is -3.

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

undefined. A)  $3(4 + 5) = 3 \cdot 4 + 3 \cdot 5$  ✓

undefined. B)  $2(6 - 3) = 2 \cdot 6 - 2 \cdot 3$

undefined. C)  $5 + (2 \cdot 3) = 5 \cdot 2 + 5 \cdot 3$

undefined. D)  $4(3 + 2) = 4 \cdot 3 + 4 \cdot 2$  ✓

The expressions that correctly apply the distributive property are  $3(4 + 5) = 3 \cdot 4 + 3 \cdot 5$  and  $4(3 + 2) = 4 \cdot 3 + 4 \cdot 2$ .

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

To solve  $2(3 - 5) + 4$ , first calculate  $(3 - 5) = -2$ , then multiply  $2 \cdot -2 = -4$ , and finally add  $-4 + 4 = 0$ .

### Part 3: Analysis, Evaluation, and Creation

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

undefined. A) It becomes zero

undefined. B) It becomes positive

undefined. C) It becomes negative

undefined. D) It changes sign ✓

Multiplying a number by -1 changes its sign.

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

undefined. A)  $(-3) \cdot (-2) = 6$  ✓

undefined. B)  $4 \div (-2) = -2$  ✓

undefined. C)  $(-5) + (-5) = -10$  ✓

undefined. D)  $7 - (-3) = 4$

The correct operations are  $(-3) \times (-2) = 6$ ,  $4 \div (-2) = -2$ , and  $(-5) + (-5) = -10$ .

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

**To solve  $(-2) \times (3 + 4)$ , distribute -2 to both 3 and 4:  $(-2) \times 3 + (-2) \times 4 = -6 + -8 = -14$ .**

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

undefined. A) The result is positive

undefined. B) The result is zero

**undefined. C) The result is negative ✓**

undefined. D) The result is undefined

The result of  $5 - (2 + 3)$  is negative.

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

**undefined. A) Calculating the balance after a withdrawal from a bank account ✓**

**undefined. B) Measuring the temperature change from morning to afternoon ✓**

undefined. C) Finding the average of a set of decimal numbers

**undefined. D) Determining the distance traveled by a car ✓**

The scenarios that involve integer operations are calculating the balance after a withdrawal from a bank account, measuring the temperature change from morning to afternoon, and 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.**

**An example problem could involve tracking expenses and income, where you add income and subtract expenses to find the net amount.**