

# Worksheet: Number Theory & Relationships

## *Assessing Natural Numbers, Whole Numbers, Integers, and Rational Numbers*

Instructions: Read each statement carefully. For Part I, indicate whether the statement is True or False. For Part II, select the single best answer for each multiple-choice question. An Answer Key with detailed explanations is provided at the end of this document.

### Part I: True or False Questions

1. All counting (natural) numbers are whole numbers.
2. Every counting number can be classified as a positive integer.
3. All counting numbers can be expressed as fractions with 1 in the denominator.
4. Zero is considered a positive integer.
5. All integers can be written as fractions, making them rational numbers.
6. Integers consist of positive or negative natural numbers, as well as zero.

### Part II: Multiple-Choice Questions

7. Which of the following fractional representations correctly demonstrates that zero is a rational number?  
A)  $0 = 1/0$                       B)  $0 = 0/1$                       C)  $0 = 1/1$                       D)  $0 = 0/0$
8. How is the negative integer -3 properly represented as a rational fraction?  
A)  $-3 / -1$                       B)  $1 / -3$                       C)  $-3 / 1$                       D)  $3 / -3$
9. Which set of numbers contains all natural numbers plus the number zero?  
A) Negative Integers                      B) Irrational Numbers                      C) Whole Numbers                      D) Fractions with zero denominator
10. Which of the following numbers belongs to the set of Rational Numbers, but is NOT an Integer?  
A) -11                      B) 6.7                      C) 0                      D) -5