POST TEST: Sets & Number Vocabulary

Name: _____ Grade 10
Nickname :_____ Time: 45–60 minutes

Instructions: Choose the best answer for Part A. Show complete solutions for Part B.

PART A: Multiple Choice (25 items)

1. Which set correctly represents the natural numbers?
   A. {0,1,2,3,...} B. {1,2,3,4,...} C. {-1,0,1,...} D. {2,4,6,...}

2. Which of the following is NOT a prime number?
   A. 2 B. 3 C. 5 D. 9

3. Which set consists entirely of integers but not whole numbers?
   A. {-3,-2,-1} B. {0,1,2} C. {1,2,3} D. {2,4,6}

4. Which of the following is a composite number?
   A. 11 B. 13 C. 17 D. 21

5. Which list represents three consecutive integers whose sum is 72?
   A. 22,24,26 B. 23,24,25 C. 20,22,24 D. 18,24,30

6. Which set is correctly described as consecutive odd numbers?
   A. {1,2,3} B. {3,5,7,9} C. {2,4,6,8} D. {5,10,15}

7. How many prime numbers are there between 10 and 20?
   A. 2 B. 3 C. 4 D. 5

8. Which statement is always true?
   A. All odd numbers are prime B. All prime numbers are odd
   C. 2 is the only even prime number D. All composite numbers are even

9. Which of the following sets is infinite?
   A. {1,2,3,4} B. {2,4,6,8} C. {x | x is an integer} D. {5,10,15}

10. Which of the following is a whole number but not a natural number?
    A. 1 B. 0 C. -1 D. 2

11. Which set represents multiples of 3 less than 15?
    A. {3,6,9,12} B. {1,3,5,7} C. {3,9,15} D. {0,3,6,9,12,15}

12. Which number is both prime and odd?
    A. 2 B. 9 C. 15 D. 11

13. Which number has exactly 3 factors?
    A. 4 B. 6 C. 8 D. 9

14. Which is correctly written in set-builder form?
    A. {2,4,6,8} B. {x | x is even, x < 10}
    C. x = {2,4,6} D. {even numbers}

15. Which is NOT an integer?
    A. -3 B. 0 C. 4 D. 1/2

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16. What is the sum of the first three consecutive even numbers starting from 6?
A. 18 B. 20 C. 24 D. 30

17. Which is always a composite number?
A. Product of two primes B. Sum of two primes
C. Difference of two primes D. Square of 1

18. Which set contains only composite numbers?
A. {4,6,8,9} B. {2,3,5,7} C. {1,4,6,8} D. {3,6,9,11}

19. Which describes consecutive integers?
A. Increase by 2 B. Increase by 1
C. Divisible by 2 D. Divisible by 3

20. If n is even, which is always even?
A. n+1 B. n+2 C. n+3 D. n+5

21. Which set is finite?
A. real numbers B. integers C. {1,2,3,4,5} D. primes

22. Which number is neither prime nor composite?
A. 0 B. 1 C. 2 D. 3

23. Which set is correctly matched?
A. {1,3,5,7} → even B. {2,4,6,8} → odd
C. {2,3,5,7} → prime D. {4,6,9} → prime

24. Which represents three consecutive odd numbers?
A. n,n+1,n+2 B. n,n+2,n+4 C. n,n+3,n+6 D. n,2n,3n

25. Which is always true?
A. Every even number is composite B. Every prime number is odd
C. Sum of two odd numbers is even D. Product of two odd numbers is even

PART B: Problem Solving (5 items)

26. Find three consecutive integers whose sum is 99.
Solution: _____

27. List numbers less than 20 that are both even and multiples of 3.
Solution: _____

28. Find three consecutive odd numbers whose sum is 75.
Solution: _____

29. List all prime numbers between 1 and 30 and state how many there are.
Solution: _____

30. Let A be multiples of 4 less than 25. Write the set and the number of elements.
Solution: _____

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