1. What is the prime factorization of 56?
   A. 2 × 2 × 2 × 7
   B. 2 × 2 × 7 × 7
   C. 3 × 3 × 7
   D. 2 × 28 (A)

Explanation : 56 can be broken into prime factors as 2 × 2 × 2 × 7.

2. What is the prime factorization of 63?
   A. 3 × 3 × 7
   B. 2 × 3 × 3 × 7
   C. 7 × 9
   D. 3 × 21 (A)

Explanation: Prime factorization uses only prime numbers. So 63 = 3 × 3 × 7.

3. Which of the following shows only prime factors of 56?
   A. 2 and 7
   B. 4 and 14
   C. 8 and 7
   D. 2 and 14 (A)

Explanation: The prime factors of 56 are 2 and 7.

4. Which statement about prime factorization is correct?
   A. We stop when only composite numbers are left
   B. We stop when only prime numbers are left
   C. We stop after finding two factors
   D. We stop at any step (B)

Explanation: In prime factorization, we keep factoring until all factors are prime.

5. What is the prime factorization of 72?
   A. 2 × 2 × 2 × 3 × 3
   B. 2 × 2 × 3 × 6
   C. 8 × 9
   D. 4 × 18 (A)

Explanation : 72 = 8 × 9 = 2 × 2 × 2 × 3 × 3.

6. What is the prime factorization of 81?
   A. 3 × 3 × 3 × 3
   B. 9 × 9
   C. 3 × 27
   D. 2 × 2 × 2 × 2 × 5 (A)

Explanation : 81 is a power of 3, so 81 = 3 × 3 × 3 × 3.

7. What is the prime factorization of 102?
   A. 2 × 3 × 17
   B. 2 × 51
   C. 6 × 17
   D. 3 × 34 (A)

Explanation : 102 = 2 × 51, and 51 = 3 × 17. So 102 = 2 × 3 × 17.

8. Commutativity of multiplication means:
   A. numbers can be added in any order
   B. numbers can be multiplied in any order
   C. numbers must be grouped first
   D. multiplication changes the result (B)

Explanation : In multiplication, changing the order does not change the answer.

9. Associativity of multiplication means:
   A. factors must stay in one order only
   B. grouping changes the answer
   C. grouping does not change the answer
   D. only prime numbers can be grouped (C)

Explanation : Associativity means (a × b) × c = a × (b × c).

10. Is there commutativity in multiplication?
    A. Yes
    B. No
    C. Only for even numbers
    D. Only for prime numbers (A)

Explanation : Multiplication is commutative because changing the order gives the same product.