

# 1

## Questions

**1. In which mathematical context is the number '1' considered a unity?**

- A. In category theory as a universal object.
- B. In group theory as it pertains to identity elements.
- C. In ring theory as it pertains to multiplicative identity.
- D. In measure theory as the unit measure.

**2. How does the number '1' function in the context of modular arithmetic?**

- A. Changes equivalence classes depending on the modulus.
- B. Equivalent to itself in any modulo system.
- C. Equivalent to 0 in any modulo system.
- D. Equivalent to -1 in any modulo system.

**3. In number theory, how is the significance of '1' perceived in relation to prime factorization?**

- A. 1 is considered a prime factor by definition.
- B. 1 multiplies all factors in any factorization.
- C. 1 is excluded in the prime factorization process.
- D. 1 can substitute any factor in a factorization.

**4. In mathematics, which of the following roles does the number 1 play in the context of integer arithmetic?**

- A. 1 is neither an additive nor a multiplicative identity.
- B. 1 is the multiplicative identity in integer arithmetic.
- C. 1 is the additive identity in integer arithmetic.
- D. 1 is both the additive and multiplicative identity in integer arithmetic.

**5. In the context of identity matrices, what role does the number '1' play?**

- A. 1 is not used in identity matrices.
- B. 1 is part of diagonal elements.
- C. 1 can be in both diagonal and off-diagonal elements.
- D. 1 is part of off-diagonal elements.