

CHAPTER-1 | Real Numbers

QUIZ
PART-04

1. Which of the following is an irrational number?

- A. 2
B. $\sqrt{2}$
C. 25
D. 2.23 (B)

Explanation: $\sqrt{2}$ is an irrational number because it cannot be expressed as a fraction and its decimal expansion is non-terminating and non-repeating.

2. Which of the following is an irrational number?

- A. 2
B. 2.232425...
C. 2.23
D. 2.03 (B)

Explanation: 2.232425... is irrational because its decimal expansion is non-terminating and non-repeating.

3. $5 + \sqrt{3}$ is an _____ number.

- A. Rational number
B. Irrational number
C. Prime number
D. Natural number (B)

Explanation: $5 + \sqrt{3}$ is an irrational number because the sum of a rational and irrational number is always irrational.

4. The number $\sqrt{2}$ is:

- A. Rational
B. Irrational
C. Prime
D. Composite (B)

Explanation: $\sqrt{2}$ is irrational because it cannot be expressed as a ratio of two integers and its decimal expansion is non-terminating.

5. If a prime number p divides a^2 , then p divides a . This is an example of:

- A. Theorem 1.2
B. Theorem 1.3
C. Fundamental Theorem of Arithmetic
D. None of these (A)

Explanation: This statement is the fundamental property of prime numbers, as mentioned in Theorem 1.2.

6. The value of $\sqrt{3}$ is:

- A. Rational
B. Irrational
C. Integer
D. Fraction (B)

Explanation: $\sqrt{3}$ is irrational as it cannot be expressed as a fraction and its decimal expansion is non-terminating and non-repeating.

7. Which of the following numbers is irrational?

- A. 0.6666...
B. $\sqrt{5}$
C. 4
D. 0.25 (B)

Explanation: $\sqrt{5}$ is irrational because its decimal expansion is non-terminating and non-repeating.

8. The prime factorization of 5005 is:

- A. $2 \times 5 \times 7 \times 11 \times 13$
B. $2 \times 3 \times 5 \times 7 \times 11$
C. $2 \times 3 \times 7 \times 13$
D. $2 \times 5 \times 3 \times 7 \times 13$ (A)

Explanation: The prime factorization of 5005 is $2 \times 5 \times 7 \times 11 \times 13$.

9. Which of the following is a rational number?

- A. $\sqrt{2}$
B. π
C. $1/2$
D. $\sqrt{3}$ (C)

Explanation: $1/2$ is a rational number because it can be expressed as a ratio of two integers.

10. The HCF of two numbers is 1. Which of the following is true?

- A. They are prime
B. They are composite
C. They are co-prime
D. They are equal (C)

Explanation: If the HCF of two numbers is 1, then they are co-prime, meaning they have no common factors other than 1.