Under CSR Support by ipca | Foundation missiongyan

CHAPTER-1 | Number System

QUIZ PART-02

1. Which of the following is an irrational number?

A. $\sqrt{16}$ B. $\sqrt{12}$
C. π D. 3 (C)

Explanation : π 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 not an irrational number?

A. π B. $2+\sqrt{3}$
C. $\sqrt{16}$ D. $\sqrt{2}+1$ (C)

Explanation : $\sqrt{16}$ *equals* 4, which is a rational number because it can be expressed as a fraction $\frac{4}{1}$.

3. What is the decimal expansion of an irrational number?

A. It is always terminating.
B. It is always repeating.
C. It is non-terminating and non-repeating.
D. It can either terminate or repeat. (C)

Explanation : An irrational number has a non-terminating and non-repeating decimal expansion, unlike rational numbers.

4. Which of the following numbers is rational?

A. $\sqrt{5}$ B. $\frac{22}{7}$
C. π D. e (B)

Explanation : One slide shows the example "Ice melts when left outside.

5. Which of the following is true about irrational numbers?

A. They can be written as fractions.
B. They can be written as decimals that terminate.
C. They cannot be written as fractions.
D. They are always positive. (C)

Explanation : Irrational numbers cannot be expressed as fractions, and their decimal expansions are non-terminating and non-repeating.

6. Is $\sqrt{25}$ an irrational number?

A. Yes
B. No
C. Only if the square root is a non-perfect square.
D. None of the above. (B)

Explanation $\sqrt{25}=5$, which is a rational number.n Irrational numbers arise from non-perfect squares.

7. Which number is an example of an irrational number ?

A. $\frac{5}{2}$ B. $\sqrt{2}$
C. 4 D. −3 (B)

Explanation : The process includes steps such as Questioning, along with Observing, Guessing, Testing, and Analyzing.

8. Which of the following is a rational number?

A. $\sqrt{3}$ B. π
C. $\frac{7}{9}$ D. $\sqrt{2}$ (C)

Explanation : $\frac{7}{9}$ is a rational number because it is a fraction of two integers.

9. Are the square roots of all positive integers irrational

A. Yes, all are irrational.
B. No, only square roots of non-perfect squares are irrational.
C. No, all square roots are rational.
D. None of the above. (B)

Explanation : The square roots of non-perfect squares, like $\sqrt{2}$, are irrational, but the square roots of perfect squares, like $\sqrt{4}=2$, are rational.

10. What is the general characteristic of irrational numbers?

A. They can be written as fractions of integers.
B. They cannot be expressed as fractions.
C. They have finite decimal expansions.
D. They always have repeating decimal expansions. (D)

Explanation : Irrational numbers cannot be expressed as fractions and have non-terminating, non-repeating decimal expansions.

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