

PRACTICE QUESTIONS

1. The decimal expansion of the number $\sqrt{2}$ is
 (a) a finite decimal (b) 1.41
 (c) non-terminating recurring (d) non-terminating non-recurring
2. Which of the following is an irrational number?
 (a) 0.14 (b) 0.1416 (c) 0.1416 (d) 0.4014001400014....
3. Which pair of rational numbers lies between $\frac{1}{4}$ and $\frac{3}{4}$?
 (a) $\frac{262}{1000}, \frac{752}{1000}$ (b) $\frac{252}{1000}, \frac{748}{1000}$ (c) $\frac{272}{1000}, \frac{772}{1000}$ (d) $\frac{9}{40}, \frac{31}{40}$
4. The value of 1.999... in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$, is
 (a) $\frac{19}{10}$ (b) $\frac{1999}{1000}$ (c) 2 (d) $\frac{1}{9}$
5. Find ten rational numbers between $-\frac{2}{3}$ and $\frac{1}{4}$.
6. Which of the following statements is true?
 (a) Every irrational number has a repeating decimal expansion
 (b) Every rational number has a terminating decimal expansion
 (c) Rational numbers can be expressed as $\frac{p}{q}$, where $q \neq 0$
 (d) both b and c

Select the correct answer from the options:

- (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).
- (b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).
- (c) Assertion (A) is true, but Reason (R) is false.
- (d) Assertion (A) is false, but Reason (R) is true.

7. **Assertion (A):** Every integer is a rational number.

Reason (R): Every integer can be expressed in the form of $\frac{m}{1}$ so it is rational number.

8. **Assertion (A):** 7 is an irrational number.

Reason (R): An irrational number cannot be written in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$.

9. Represent each of the following rational numbers on the number line:

- (a) $\frac{7}{6}$ (b) $\frac{8}{3}$ (c) $\frac{15}{7}$

10. Find two irrational numbers lying between $\sqrt{2}$ and $\sqrt{3}$.

11. State whether the decimal expansion of $\frac{7}{8}$ is terminating or non-terminating repeating. Justify.

12. Is the sum of a rational number and an irrational number always irrational? Give an example.

13. Express $\frac{15}{11}$ as a decimal expression and mention the type of decimal.

14. Express $0.56\overline{7418}$ as $\frac{p}{q}$ fraction.

15. Simplify: $11.45\overline{65} \div 2.\overline{67}$

16. Find the difference: $-\frac{3}{15} - (-\frac{1}{5})$

17. Express 0.272727... in the form of $\frac{p}{q}$, where p and q are integers.

18. Simplify the expression: $(-\frac{3}{4}) + (\frac{2}{8})$

19. Locate $\sqrt{5}$ and $\sqrt{10}$ on the number line.

20. Write four rational numbers equivalent to $\frac{5}{7}$.

21. During a class activity Shikha was asked to choose some numbers cards and give these to her friend, Rekha. The card that Shikha was given to her friend has numbers 3.2 , $\sqrt{7}$, $\sqrt{2}$, 5 , $\sqrt{3}$, etc. on them. Her friend Rekha rejected some numbers due to their Irrational nature and she asked some questions related those number written on the cards from Shikha.

Read the above information and answer the following questions.

(i) What kind of number $\sqrt{3}$ is?

(ii) What should we multiply in $\sqrt{2}$ to make it a rational number.

(iii) Write any equivalent rational numbers of 3.2 ?

OR

Which type of number we get on adding rational and irrational number?

