RS Aggarwal Solutions for Class 8 Maths Chapter 1 Exercise 1.5: The Physics Wallah academic team has produced a comprehensive answer for Chapter 1: Rational Numbers in the RS Aggarwal class 8 textbook. One should read the theory of Chapter 1 Rational Numbers before attempting to solve all of the numerical problems in Exercise 1E.

This will ensure that you have a firm understanding of Chapter 1 rational numbers. Read the NCERT maths textbook and use the NCERT class 8 maths solutions to answer the exercise questions if you want to become an expert in the subject. Experts in Physics Wallah have compiled all of the NCERT Solutions. The Chapter 1 Rational Numbers Exercise-1E solution for RS Aggarwal's class 8 is published for reference only; do not duplicate the answers.

RS Aggarwal Solutions for Class 8 Maths Chapter 1 Exercise 1.5 Rational Numbers Overview

Chapter 1, Exercise 1.5 of RS Aggarwal's Class 8 Maths focuses on Rational Numbers, providing students with a solid foundation in understanding and working with these numbers.

The problems in this exercise emphasize the addition, subtraction, multiplication, and division of rational numbers. They guide students through simplifying complex rational expressions and finding equivalent rational numbers. This exercise also covers the comparison of rational numbers, teaching students how to determine which of two rational numbers is larger or smaller by converting them to like denominators or by using decimal representation.

Additionally, students practice converting rational numbers to decimals and vice versa, reinforcing the concept that every rational number has a terminating or repeating decimal representation. By the end of this exercise, students gain confidence in manipulating rational numbers, understanding their properties, and applying these concepts to solve various mathematical problems. This comprehensive practice helps students build a strong foundation for more advanced mathematical concepts in higher classes.

What are Rational Numbers?

Rational numbers are those that may be stated as a ratio between two integers in the number system. If the rational number is an integer, it can also be the quotient of the ratio. A non-zero integer q must exist if the rational number is represented by the ratio p/q.

Every integer is a rational number because the denominator can be 1. Class 8 covers all the ideas related to rational numbers; the arithmetic operations and features of rational numbers are presented in detail.

RS Aggarwal Solutions for Class 8 Maths Chapter 1 Exercise 1.5

Below we have provided RS Aggarwal Solutions for Class 8 Maths Chapter 1 Exercise 1.5 Rational Numbers –

Question 1: Find rational Numbers between 1/4 and 1/3 -

Solution:

Rational number between ¼ and 1/3
= 1/2[¼ + 1/3]

= ½ [3+4/12]
= ½ x 7/12
= 7/24

Question 2: Find rational Numbers between 2 and 3 -

Solution:

Solution. Rational number between 2 and 3
= ½ (2 + 3)
= ½ x 5
= 5/2

Question 3: Find rational Numbers between -1/3 and 1/2 -

Solution:

Rational number between -1/3 and 1/2
= ½[-1/3 + ½]
= 1/2[1/6]
= 1/6x 1/2
= 1/12

Question 4: Find rational Numbers between -3 and -2 -

Solution:

First rational number between -3 and -2

$$= \frac{1}{2}[-3 + (-2)] = \frac{1}{2}(-3 - 2)$$

$$= \frac{1}{2}(-5) = \frac{-5}{2}$$

$$\therefore -3 < \frac{-5}{2} < -2$$

Second rational number between -3 and $\frac{-5}{2}$

$$= \frac{1}{2}\left[-3 + \left(\frac{-5}{2}\right)\right] = \frac{1}{2}\left[-3 - \frac{5}{2}\right]$$

$$= \frac{1}{2}\left[\frac{-6-5}{2}\right] = \frac{1}{2} \times \frac{-11}{2} = \frac{-11}{4}$$

Question 5: Find rational Numbers between 4 and 5 -

Solution:

First rational number between 4 and 5

$$= \frac{1}{2}[4 + 5] = \frac{1}{2} \times 9 = \frac{9}{2}$$

$$\therefore \quad 4 < \frac{9}{2} < 5$$

Second rational number between 4 and $\frac{9}{2}$

$$= \frac{1}{2}\left[4+\frac{9}{2}\right] = \frac{1}{2}\left[\frac{8+9}{2}\right] = \frac{1}{2} \times \frac{17}{2} = \frac{17}{4}$$

and third rational number between $\frac{9}{2}$ and 5

$$= \frac{1}{2}\left[\frac{9}{2}+5\right] = \frac{1}{2}\left[\frac{9+10}{2}\right] = \frac{1}{2} \times \frac{19}{2} = \frac{19}{4}$$

$$\therefore \quad 4 < \frac{17}{4} < \frac{9}{2} < \frac{19}{4} < 5$$

$\therefore$ Required three rational numbers

and $\frac{17}{4}, \frac{9}{2}, \frac{19}{4}$ Ans.

Question 6: Find rational Numbers between the given fractions -

Solution:

First rational numbers between and

$$= \frac{1}{2}\left[\frac{2}{3}+\frac{3}{4}\right]=\frac{1}{2}\left[\frac{8+9}{12}\right]=\frac{1}{2}\times\frac{17}{12}=\frac{17}{24}$$

$$\therefore \quad \frac{2}{3}<\frac{17}{24}<\frac{3}{4}$$

Second rational number between $\frac{2}{3}$

and $\frac{17}{24}$

$$= \frac{1}{2}\left[\frac{2}{3}+\frac{17}{24}\right]=\frac{1}{2}\left[\frac{16+17}{24}\right]=\frac{1}{2}\times\frac{33}{24}=\frac{33}{48}$$

Third rational number between $\frac{17}{24}$ and $\frac{3}{4}$

$$= \frac{1}{2}\left[\frac{17}{24}+\frac{3}{4}\right]=\frac{1}{2}\left[\frac{17+18}{24}\right]=\frac{1}{2}\times\frac{35}{24}=\frac{35}{48}$$

$$\because \quad \frac{2}{3}<\frac{33}{48}<\frac{17}{24}<\frac{35}{48}<\frac{3}{4}$$

$\therefore$ Required rational numbers

$$= \frac{33}{48}, \frac{17}{24}, \frac{35}{48} \text{ Ans.}$$

Question 7: Find rational Numbers between the given fractions -

Solution:

$\frac{-3}{4}, \frac{5}{6}$

LCM of 4 and 6 = 12

$\frac{-3}{4} = \frac{-3\times3}{4\times3} = \frac{-9}{12}$

and $\frac{5}{6} = \frac{5\times2}{6\times2} = \frac{10}{12}$

10 rational number can be between

$\frac{-3}{4}, \frac{5}{6}$

$= \frac{-8}{12}, \frac{-7}{12}, \frac{-6}{12}, \frac{-5}{12}, \frac{-4}{12}, \frac{-3}{12},$

$\frac{-2}{12}, \frac{-1}{12}$, 0 and $\frac{1}{12}$

Question 8: Find 12 rational Numbers between the given fractions -

Solution:

– 1 = -5/5 and 2 = 10/5

12 rational number between – 1 and 2 can be

$\frac{-4}{5}, \frac{-3}{5}, \frac{-2}{5}, \frac{-1}{5}, 0, \frac{1}{5}, \frac{2}{5}, \frac{3}{5}, \frac{4}{5},$

$\frac{5}{5}, \frac{6}{5}, \frac{7}{5}$

Benefits of RS Aggarwal Solutions for Class 8 Maths Chapter 1 Exercise 1.5

The RS Aggarwal Solutions for Class 8 Maths Chapter 1 Exercise 1.5 on Rational Numbers offers several benefits for students:

Conceptual Clarity: The solutions provide detailed explanations for each problem, helping students understand the underlying concepts of rational numbers. This clarity ensures that students can grasp the fundamentals effectively.

Step-by-Step Solutions: Each problem is solved in a step-by-step manner, allowing students to follow the logical progression of solving rational number problems. This methodical approach aids in better comprehension and retention of the concepts.

Practice and Reinforcement: The exercise includes a variety of problems that cover different aspects of rational numbers, such as addition, subtraction, multiplication, division, and comparison. This extensive practice reinforces learning and helps students master the topic.

Boosts Confidence: By working through the solutions, students can build confidence in their ability to tackle rational number problems independently. This confidence is crucial for their overall performance in mathematics.

Exam Preparation: The solutions are aligned with the curriculum and the types of questions that are likely to appear in exams. Practicing these problems prepares students for their assessments, ensuring they are well-equipped to handle similar questions.

Problem-Solving Skills: The exercise encourages critical thinking and problem-solving skills. Students learn to approach problems systematically, which is a valuable skill in mathematics and other subjects.