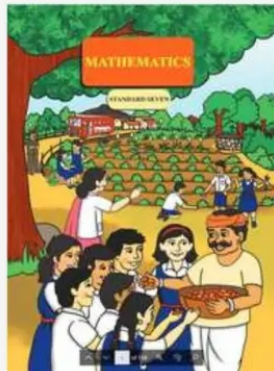


Maharashtra Board Solutions Class 7-Maths (Practice Set 22): Chapter 5- Operations on Rational Numbers

BOOK SOLUTIONS
CLASS 7
MATHS

CHAPTER 5
**Operations on Rational
Numbers**





Maharashtra Board Solutions→

For any clarifications or questions you can write to info@indcareer.com

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Class 7: Maths Chapter 5 solutions. Complete Class 7 Maths Chapter 5 Notes.

Maharashtra Board Solutions Class 7-Maths (Practice Set 22): Chapter 5- Operations on Rational Numbers

Maharashtra Board 7th Maths Chapter 5, Class 7 Maths Chapter 5 solutions

Question 1.

Carry out the following additions of rational numbers:

i. $536+642$

ii. $123+245$

iii. $1117+1319$

iv. $2311+1377$

Solution:

i. $536+642$

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$$\begin{aligned} &= \frac{5 \times 7}{36 \times 7} + \frac{6 \times 6}{42 \times 6} \\ &= \frac{35}{252} + \frac{36}{252} \\ &= \frac{35 + 36}{252} \\ &= \frac{71}{252} \end{aligned}$$

ii. $123 + 245$

$$\begin{aligned} &= \frac{5}{3} + \frac{14}{5} \\ &= \frac{5 \times 5}{3 \times 5} + \frac{14 \times 3}{5 \times 3} \\ &= \frac{25}{15} + \frac{42}{15} = \frac{25 + 42}{15} \\ &= \frac{67}{15} \end{aligned}$$

iii. $1117 + 1319$

$$\begin{aligned} &= \frac{11 \times 19}{17 \times 19} + \frac{13 \times 17}{19 \times 17} \\ &= \frac{209}{323} + \frac{221}{323} \\ &= \frac{209 + 221}{323} \\ &= \frac{430}{323} \end{aligned}$$

iv. $2311 + 1377$

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$$\begin{aligned} &= \frac{25}{11} + \frac{80}{77} \\ &= \frac{25 \times 7}{11 \times 7} + \frac{80}{77} \\ &= \frac{175}{77} + \frac{80}{77} = \frac{175 + 80}{77} \\ &= \frac{255}{77} \end{aligned}$$

Question 2.

Carry out the following subtractions involving rational numbers.

i. $711 - 37$

ii. $1336 - 240$

iii. $123 - 356$

iv. $412 - 313$

Solution:

i. $711 - 37$

$$\begin{aligned} &= \frac{7 \times 7}{11 \times 7} - \frac{3 \times 11}{7 \times 11} \\ &= \frac{49}{77} - \frac{33}{77} \\ &= \frac{49 - 33}{77} \\ &= \frac{16}{77} \end{aligned}$$

ii. $1336 - 240$

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$$\begin{aligned} &= \frac{13 \times 10}{36 \times 10} - \frac{2 \times 9}{40 \times 9} \\ &= \frac{130}{360} - \frac{18}{360} \\ &= \frac{130 - 18}{360} = \frac{112}{360} = \frac{112 \div 8}{360 \div 8} \\ &= \frac{14}{45} \end{aligned}$$

iii. $123 - 356$

$$\begin{aligned} &= \frac{5}{3} - \frac{23}{6} \\ &= \frac{5 \times 2}{3 \times 2} - \frac{23}{6} \\ &= \frac{10}{6} - \frac{23}{6} \\ &= \frac{10 - 23}{6} = \frac{-13}{6} \end{aligned}$$

iv. $412 - 313$

$$\begin{aligned} &= \frac{9}{2} - \frac{10}{3} \\ &= \frac{9 \times 3}{2 \times 3} - \frac{10 \times 2}{3 \times 2} \\ &= \frac{27}{6} - \frac{20}{6} \\ &= \frac{27 - 20}{6} = \frac{7}{6} \end{aligned}$$

Question 3.

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Multiply the following rational numbers.

i. 311×25

ii. 125×415

iii. $(-8)9 \times 34$

iv. 06×34

Solution:

i. 311×25

$$= 3 \times 211 \times 5 = 655$$

ii. 125×415

$$= 45 \times 45 = 4 \times 45 \times 5 = 1625$$

iii. $(-8)9 \times 34$

$$= (-2)3 \times 11 = -23$$

iv. 06×34

$$= 0 \times 34 = 0$$

Question 4.

Write the multiplicative inverse of.

i. 25

ii. -38

iii. -1739

iv. 7

v. -713

Solution:

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i. 52

ii. -83

iii. -3917

iv. 17

v. -322

Question 5.

Carry out the divisions of rational numbers:

i. $4012 \div 104$

ii. $-1011 \div -1110$

iii. $-78 \div -36$

iv. $23 \div (-4)$

v. $215 \div 536$

vi. $-513 \div 726$

vii. $911 \div (-8)$

viii. $5 \div 25$

Solution:

i. $4012 \div 104$

$$= 4012 \times 410 = 43$$

ii. $-1011 \div -1110$

$$= -1011 \times -1011 = 100121$$

iii. $-78 \div -36$

$$= -78 \times -63 = -74 \times -33 = 74$$

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iv. $23 \div (-4)$

$$= 23 \times -14 = 13 \times -12 = -16$$

v. $215 \div 536$

$$= 115 \div 336 = 115 \times 633 = 15 \times 63 = 25$$

vi. $-513 \div 726$

$$= -513 \times 267 = -107$$

vii. $911 \div (-8)$

$$= 911 \times -18 = -988$$

viii. $5 \div 25$

$$= 51 \times 52 = 252$$

Intext Questions and Activities

Question 1.

Complete the table given below. (Textbook pg. no. 34)

-3 35 -17 -511 5

Natural Numbers	x				✓
Integers	✓				
Rational Numbers	✓				

Solution:

-3 35 -17 -511 5

Natural Numbers	x	x	x	x	✓
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Integers	✓	x	✓	x	✓
Rational Numbers	✓	✓	✓	✓	✓

Question 2.

Discuss the characteristics of various groups of numbers in class and complete the table below. In front of each group, write the inference you make after carrying out the operations of addition, subtraction, multiplication and division, using a (✓) or a (x).

Remember that you cannot divide by zero. (Textbook pg. no. 35)

Group of Numbers	Addition	Subtraction	Multiplication	Division
Natural Numbers	✓	x (7- 10 =-3)	✓	x (3÷5=35)
Integers				
Rational Numbers				

Solution:

Group of Numbers	Addition	Subtraction	Multiplication	Division
Natural Numbers	✓	x (7- 10 =-3)	✓	x (3÷5=35)
Integers	✓	✓	✓	x (4÷9=49)
Rational Numbers	✓	✓	✓	✓



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- Chapter 1- Geometrical Constructions (Practice Set 1)
- Chapter 1- Geometrical Constructions (Practice Set 2)
- Chapter 1- Geometrical Constructions (Practice Set 3)
- Chapter 1- Geometrical Constructions (Practice Set 4)
- Chapter 1- Geometrical Constructions (Practice Set 5)
- Chapter 1- Geometrical Constructions (Practice Set 6)
- Chapter 1- Geometrical Constructions (Practice Set 7)
- Chapter 2- Multiplication and Division of Integers (Practice Set 8)
- Chapter 2- Multiplication and Division of Integers (Practice Set 9)
- Chapter 3- HCF and LCM (Practice Set 10)
- Chapter 3- HCF and LCM (Practice Set 11)
- Chapter 3- HCF and LCM (Practice Set 12)
- Chapter 3- HCF and LCM (Practice Set 13)
- Chapter 3- HCF and LCM (Practice Set 14)
- Chapter 4- Angles and Pairs of Angles (Practice Set 15)
- Chapter 4- Angles and Pairs of Angles (Practice Set 16)
- Chapter 4- Angles and Pairs of Angles (Practice Set 17)
- Chapter 4- Angles and Pairs of Angles (Practice Set 18)
- Chapter 4- Angles and Pairs of Angles (Practice Set 19)
- Chapter 4- Angles and Pairs of Angles (Practice Set 20)
- Chapter 4- Angles and Pairs of Angles (Practice Set 21)

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- Chapter 5- Operations on Rational Numbers (Practice Set 22)
- Chapter 5- Operations on Rational Numbers (Practice Set 23)
- Chapter 5- Operations on Rational Numbers (Practice Set 24)
- Chapter 5- Operations on Rational Numbers (Practice Set 25)
- Chapter 6- Indices (Practice Set 26)
- Chapter 6- Indices (Practice Set 27)
- Chapter 6- Indices (Practice Set 28)
- Chapter 6- Indices (Practice Set 29)
- Chapter 6- Indices (Practice Set 30)
- Chapter 7- Joint Bar Graph (Practice Set 31)
- Chapter 8- Algebraic Expressions and Operations on them (Practice Set 32)
- Chapter 8- Algebraic Expressions and Operations on them (Practice Set 33)
- Chapter 8- Algebraic Expressions and Operations on them (Practice Set 34)
- Chapter 8- Algebraic Expressions and Operations on them (Practice Set 35)
- Chapter 8- Algebraic Expressions and Operations on them (Practice Set 36)
- Chapter 9- Direct Proportion and Inverse Proportion (Practice Set 37)
- Chapter 9- Direct Proportion and Inverse Proportion (Practice Set 38)
- Chapter 9- Direct Proportion and Inverse Proportion (Practice Set 39)
- Chapter 10- Bank and Simple Interest (Practice Set 40)
- Chapter 10- Bank and Simple Interest (Practice Set 41)
- Chapter 11- Circle (Practice Set 42)

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- Chapter 11- Circle (Practice Set 43)
- Chapter 12- Perimeter and Area (Practice Set 44)
- Chapter 12- Perimeter and Area (Practice Set 45)
- Chapter 12- Perimeter and Area (Practice Set 46)
- Chapter 12- Perimeter and Area (Practice Set 47)
- Chapter 13- Pythagoras Theorem (Practice Set 48)
- Chapter 13- Pythagoras Theorem (Practice Set 49)
- Chapter 14- Algebraic Formulae - Expansion of Squares (Practice Set 50)
- Chapter 14- Algebraic Formulae - Expansion of Squares (Practice Set 51)
- Chapter 14- Algebraic Formulae - Expansion of Squares (Practice Set 52)
- Chapter 14- Algebraic Formulae - Expansion of Squares (Practice Set 53)
- Chapter 15- Statistics (Practice Set 54)
- Chapter 14- Statistics (Practice Set 55)

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About About Maharashtra State Board (MSBSHSE)

The Maharashtra State Board of Secondary and Higher Secondary Education or MSBSHSE (Marathi: महाराष्ट्र राज्य माध्यमिक आणि उच्च माध्यमिक शिक्षण मंडळ), is an **autonomous and statutory body established in 1965**. The board was amended in the year 1977 under the provisions of the Maharashtra Act No. 41 of 1965.

The Maharashtra State Board of Secondary & Higher Secondary Education (MSBSHSE), Pune is an independent body of the Maharashtra Government. There are more than 1.4 million students that appear in the examination every year. The Maha State Board conducts the board examination twice a year. This board conducts the examination for SSC and HSC.

The Maharashtra government established the Maharashtra State Bureau of Textbook Production and Curriculum Research, also commonly referred to as Ebalbharati, in 1967 to take up the responsibility of providing quality textbooks to students from all classes studying under the Maharashtra State Board. MSBHSE prepares and updates the curriculum to provide holistic development for students. It is designed to tackle the difficulty in understanding the concepts with simple language with simple illustrations. Every year around 10 lakh students are enrolled in schools that are affiliated with the Maharashtra State Board.

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FAQs

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Who developed the Maharashtra State board books?

As of now, the MSCERT and Balbharti are responsible for the syllabus and textbooks of Classes 1 to 8, while Classes 9 and 10 are under the Maharashtra State Board of Secondary and Higher Secondary Education (MSBSHSE).

How many state boards are there in Maharashtra?

The Maharashtra State Board of Secondary & Higher Secondary Education, conducts the HSC and SSC Examinations in the state of Maharashtra through its nine Divisional Boards located at Pune, Mumbai, Aurangabad, Nasik, Kolhapur, Amravati, Latur, Nagpur and Ratnagiri.

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