

Maharashtra Board Solutions Class 7-Maths (Practice Set 13): Chapter 3- HCF and LCM



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Maharashtra Board Solutions Class 7-Maths

(Practice Set 13): Chapter 3- HCF and LCM

Class 7: Maths Chapter 3 solutions. Complete Class 7 Maths Chapter 3 Notes.

Maharashtra Board Solutions Class 7-Maths (Practice Set 13): Chapter 3- HCF and LCM

Maharashtra Board 7th Maths Chapter 3, Class 7 Maths Chapter 3 solutions

Question 1.

Find the LCM:

- i. 12, 15
- ii. 6, 8, 10
- iii. 18, 32
- iv. 10, 15, 20
- v. 45, 86
- vi. 15, 30, 90
- vii. 105, 195
- viii. 12, 15, 45
- ix. 63, 81
- x. 18, 36, 27

Solution:

- i. 12, 15

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3	12	15
2	4	5
	2	5

∴ LCM of 12 and 15 = $3 \times 2 \times 2 \times 5$

= 60

ii. 6, 8, 10

2	6	8	10
2	3	4	5
	3	2	5

∴ LCM of 6, 8 and 10 = $2 \times 2 \times 3 \times 2 \times 5$

= 120

iii. 18, 32

2	18	32
2	9	16
2	9	8
2	9	4
3	9	2
	3	2

∴ LCM of 18 and 32 = $2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 2$

= 288

iv. 10, 15, 20

5	10	15	20
2	2	3	4
	1	3	2

∴ LCM of 10, 15 and 20 = $5 \times 2 \times 3 \times 2$

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= 60

v. 45, 86

2	45	86
3	45	43
3	15	43
	5	43

∴ LCM of 45 and 86 = $2 \times 3 \times 3 \times 5 \times 43$

= 3870

vi. 15, 30, 90

3	15	30	90
5	5	10	30
2	1	2	6
	1	1	3

∴ LCM of 15, 30 and 90 = $3 \times 5 \times 2 \times 3$

= 90

vii. 105, 195

3	105	195
5	35	65
	7	13

∴ LCM of 105 and 195 = $5 \times 3 \times 7 \times 13$

= 1365

viii. 12, 15, 45

3	105	195
5	35	65
	7	13

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∴ LCM of 12, 15 and 45 = $3 \times 3 \times 2 \times 5 \times 2$

= 180

ix. 63, 81

3	63	81
3	21	27
3	7	9
	7	3

∴ LCM of 63 and 81 = $3 \times 3 \times 3 \times 7 \times 3$

= 567

x. 18, 36, 27

3	18	36	27
3	6	12	9
2	2	4	3
	1	2	3

∴ LCM of 18, 36 and 27 = $3 \times 3 \times 2 \times 2 \times 3$

= 108

Question 2.

Find the HCF and LCM of the numbers given below. Verify that their product is equal to the product of the given numbers:

i. 32, 37

ii. 46, 51

iii. 15, 60

iv. 18, 63

v. 78, 104

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Solution:

i. $32 = 2 \times 16$

$$= 2 \times 2 \times 8$$

$$= 2 \times 2 \times 2 \times 4$$

$$= 2 \times 2 \times 2 \times 2 \times 2 \times 1$$

$$37 = 37 \times 1$$

$$\therefore \text{HCF of } 32 \text{ and } 37 = 1$$

$$\text{LCM of } 32 \text{ and } 37 = 2 \times 2 \times 2 \times 2 \times 2 \times 37$$

$$= 1184$$

$$\text{HCF} \times \text{LCM} = 1 \times 1184$$

$$= 1184$$

$$\text{Product of the given numbers} = 32 \times 37$$

$$= 1184$$

$$\therefore \text{HCF} \times \text{LCM} = \text{Product of the given numbers.}$$

ii. $46 = 2 \times 23 \times 1$

$$51 = 3 \times 17 \times 1$$

$$\therefore \text{HCF of } 46 \text{ and } 51 = 1$$

$$\text{LCM of } 46 \text{ and } 51 = 2 \times 23 \times 3 \times 17$$

$$= 2346$$

$$\text{HCF} \times \text{LCM} = 1 \times 2346$$

$$= 2346$$

$$\text{Product of the given numbers} = 46 \times 51$$

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$$= 2346$$

$\therefore \text{HCF} \times \text{LCM} = \text{Product of the given numbers.}$

iii. $15 = 3 \times 5$

$$60 = 2 \times 30$$

$$= 2 \times 2 \times 15$$

$$= 2 \times 2 \times 3 \times 5$$

$\therefore \text{HCF of } 15 \text{ and } 60 = 3 \times 5$

$$= 15$$

$$\text{LCM of } 15 \text{ and } 60 = 3 \times 5 \times 2 \times 2$$

$$= 60$$

$$\text{HCF} \times \text{LCM} = 15 \times 60$$

$$= 900$$

$$\text{Product of the given numbers} = 15 \times 60$$

$$= 900$$

$\therefore \text{HCF} \times \text{LCM} = \text{Product of the given numbers.}$

iv. $18 = 2 \times 9$

$$= 2 \times 3 \times 3$$

$$63 = 3 \times 21$$

$$= 3 \times 3 \times 7$$

$\therefore \text{HCF of } 18 \text{ and } 63 = 3 \times 3$

$$= 9$$

$$\text{LCM of } 18 \text{ and } 63 = 3 \times 3 \times 2 \times 7$$

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$$= 126$$

$$\text{HCF} \times \text{LCM} = 9 \times 126$$

$$= 1134$$

$$\text{Product of the given numbers} = 18 \times 63$$

$$= 1134$$

$$\therefore \text{HCF} \times \text{LCM} = \text{Product of the given numbers.}$$

$$\text{v. } 78 = 2 \times 39$$

$$= 2 \times 3 \times 13$$

$$104 = 2 \times 52$$

$$= 2 \times 2 \times 26$$

$$= 2 \times 2 \times 2 \times 13$$

$$\therefore \text{HCF of } 78 \text{ and } 104 = 2 \times 13$$

$$= 26$$

$$\text{LCM of } 78 \text{ and } 104 = 2 \times 13 \times 3 \times 2 \times 2$$

$$= 312$$

$$\text{HCF} \times \text{LCM} = 26 \times 312$$

$$= 8112$$

$$\text{Product of the given numbers} = 78 \times 104$$

$$= 8112$$

$$\therefore \text{HCF} \times \text{LCM} = \text{Product of the given numbers.}$$

Intext Questions and Activities

Question 1.

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Write the tables of the given numbers and find their LCM. (Textbook pg. no. 19)

i. 6, 7

ii. 8, 12

iii. 5, 6, 15

Solution:

i. Multiples of 6 : 6, 12, 18, 24, 30, 36, 42

Multiples of 7 : 7, 14, 21, 28, 35, 42, 49

$\therefore$ LCM of 6 and 7 = 42

ii. Multiples of 8 : 8, 16, 24, 32, 40

Multiples of 12 : 12, 24, 36, 48

$\therefore$ LCM of 8 and 12 = 24

iii. Multiples of 5 : 5, 10, 15, 20, 25, 30, 35

Multiples of 6 : 6, 12, 18, 24, 30, 36

Multiples of 15 : 15, 30, 45, 60

$\therefore$ LCM of 5, 6 and 15 = 30



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- Chapter 9- Direct Proportion and Inverse Proportion (Practice Set 39)
- Chapter 10- Bank and Simple Interest (Practice Set 40)
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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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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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