SESSION	**: 14**
CLASS	**: IV**
SUBJECT	**: MATHEMATICS**
CHAPTER NUMBER	**: 10**
CHAPTER NAME	**: FACTORS AND MULTIPLES**
SUBTOPIC	**: HCF BY COMMON DIVISION METHOD, EXAMPLES**

LEARNING OBJECTIVE

- **Enable the students to understand the process of common division method to find HCF.**

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COMMON FACTORS AND MULTIPLES

HCF by common division method:

In this method, we find the HCF of the given numbers by dividing them together by their least common factor. Then we multiply the common factors to get the HCF of the given numbers.

COMMON FACTORS AND MULTIPLES

HCF by Common Division Method

Example : 1 Find the HCF of 48 and 92 using common division method.

Solution :

	48, 92

Step 1 : Write the numbers together separated by commas.

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COMMON FACTORS AND MULTIPLES

HCF by Common Division Method

Example : 1 Find the HCF of 48 and 92 using common division method.

Solution :

2	48, 92
	24, 46

Step 2 : Divide by the smallest common factor of the given numbers and write the quotients below their respective number. Here, 2 is the smallest common factor of **48** and **92**.

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COMMON FACTORS AND MULTIPLES

HCF by Common Division Method

Example : 1 Find the HCF of 48 and 92 using common division method.

Solution :

2	48, 92
2	24, 46
	12, 23

Step 3 : Divide the quotients obtained in the above step again by a common factor and write the quotients below. Repeat dividing by common factors till the **2** quotients obtained have no common factors anymore.

here, **2** is again a common factor of **24** and **46**. we get **12** an **23** respectively as quotients. Since, there are no common factors to divide **12** and **23**, we will stop here.

COMMON FACTORS AND MULTIPLES

HCF by Common Division Method

Example : 1 Find the HCF of 48 and 92 using common division method.

Solution :

2	48, 92
2	24, 46
	12, 23

Step 4 : write the common factors on the left column and multiply them to get the HCF of **48** and **92**. so, HCF of **48** and **92** = **2** × **2** = **4**

HCF of **48** and **92** = **2** × **2** = **4**

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COMMON FACTORS AND MULTIPLES

HCF by Common Division Method

Example : 2 Find the HCF of 18 and 54 using common division method.

Solution :

2	18, 54
3	9, 27
3	3, 9
	1, 3

Hence, the common factors are **2**, **3**, **3**.

HCF of **18** and **54** = **2** × **3** × **3** = **18**

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COMMON FACTORS AND MULTIPLES

HCF by Common Division Method

Example : 3 Find the HCF of 45 and 60 using common division method.

Solution :

3	45, 60
5	15, 20
	3, 4

Hence, the common factors are **3**, **5**.

HCF of **45** and **60** = **3** × **5** = **15**

COMMON FACTORS AND MULTIPLES

HCF by Common Division Method

Example : 4 Find the HCF of 28 and 36 using common division method.

Solution :

2	28, 36
2	14, 18
	7, 9

Hence, the common factors are **2**, **2**.

HCF of **28** and **36** = **2** × **2** = **4**

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COMMON FACTORS AND MULTIPLES

HCF by Common Division Method

Example : 5 Find the HCF of 48 and 64 using common division method.

Solution :

2	48, 64
2	24, 32
2	12, 16
2	6, 8
	3, 4

Hence, the common factors are **2** , **2** , **2** , **2**.

HCF of 48 and 64 = **2** × **2** × **2** × **2** = **16**

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COMMON FACTORS AND MULTIPLES

HCF by Common Division Method

Example : 6 Find the HCF of 100, 150 and 200 using common division method.

Solution :

2	100, 150, 200
5	50, 75, 100
5	10, 15, 20
	2, 3, 4

Hence, the common factors are **2** , **5** , **5**.

HCF of 100, 150 and 200 = **2** × **5** × **5** = **50**

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LEARNING OUTCOME:

Students are able to understand the process of common division method to find HCF.

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THANKING YOU

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