



**MONTH : AUGUST**

**SESSION : 3**

**CLASS : V**

**SUBJECT : MATHEMATICS**

**CHAPTER NUMBER: 8**

**CHAPTER NAME : FACTORS AND MULTIPLES**

**SUB-TOPIC : HCF: DIVISION METHOD**

**EXERCISE : 8[B] Q.NO. 7**

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**CHANGING YOUR TOMORROW**

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## LEARNING OBJECTIVE :

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**Enable the students**

- **To understand the concept of factors and prime factors.**
- **To understand to find out common factors and highest common factor using Division method.**

# HIGHEST COMMON FACTOR

Whenever we are asked to find out the H.C.F. of large numbers we always use the division method.

Example : Find the H.C.F of 300 and 888

$$\begin{array}{r} 2 \\ \hline 300 \quad 888 \\ 600 \quad \quad \quad 1 \\ \hline 288 \quad 300 \\ 288 \quad \quad \quad 2 \ 4 \\ \hline 12 \quad 288 \\ 24 \\ \hline 48 \\ 48 \\ \hline 0 \end{array}$$

H.C.F. = 12, Because 12 is the last divisor.

## Example : Find the H.C.F of 912, 1216 and 2400.

When we are asked to find out the H.C.F. of more than 2 numbers, 1<sup>st</sup> we find out the H.C.F. of the largest and second largest number.

### STEP – 1

$$\begin{array}{r} 1 \\ \hline 1216 \quad 2400 \\ 1216 \quad 1 \\ \hline 1184 \quad 1216 \\ 1184 \quad 3 \quad 7 \\ \hline 32 \quad 1184 \\ 96 \quad \downarrow \\ \hline 224 \\ 224 \\ \hline 0 \end{array}$$

H.C.F. of 1216 and 2400 = 32, Because 32 is the last divisor.

## STEP – 2

Then we find out the H.C.F. of 912 and 32[ the 1<sup>st</sup> H.C.F.].

$$\begin{array}{r} 28 \\ \hline 32 \overline{)912} \\ - 64 \downarrow \\ \hline 272 \\ - 256 \quad 2 \\ \hline 16 \overline{)32} \\ - 32 \\ \hline 0 \end{array}$$

H.C.F. of 912, 1216 and 2400 = 16

## EXERSICE – 8 [B]

7. Find the H.C.F of the following numbers by the division method.



a. 112 and 189

$$\begin{array}{r} 1 \\ 112 \overline{)189} \\ 112 \quad 1 \\ \hline 77 \mid 112 \\ \quad 77 \quad 2 \\ \hline \quad 35 \mid 77 \\ \quad \quad 70 \quad 5 \\ \quad \quad 7 \mid 35 \\ \quad \quad \quad 35 \\ \hline \quad \quad \quad 0 \end{array}$$

The H.C.F = 7



## EXERSICE – 8 [B]

6. Find the H.C.F of the following numbers by the division method.



b. 34, 51 and 85

$$\begin{array}{r} 1 \\ 51 \overline{)85} \\ 51 \\ \hline 34 \overline{)51} \\ 34 \\ \hline 17 \overline{)34} \\ 34 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 2 \\ 17 \overline{)34} \\ 34 \\ \hline 0 \end{array}$$

∴ H.C.F of 34, 51 and 85 = 17

The H.C.F of 85 and = 17

## EXERSICE – 8 [B]

6. Find the H.C.F of the following numbers by the division method.

c. 95, 152 and 190

$$\begin{array}{r} 1 \\ 152 \overline{)190} \\ 152 \quad 4 \\ \hline 38 \overline{)152} \\ 152 \\ \hline 0 \end{array}$$

The H.C.F of 190  
and 152 = 38

$$\begin{array}{r} 2 \\ 38 \overline{)95} \\ 76 \quad 2 \\ \hline 19 \overline{)38} \\ 38 \\ \hline 0 \end{array}$$

■ ■ H.C.F of 95, 152 and 190 =  
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## EXERSICE – 8 [B]

6. Find the H.C.F of the following numbers by the division method.

d. 650, 900 and 1000

$$\begin{array}{r} 1 \\ 900 \overline{)1000} \\ 900 \quad 9 \\ \hline 100 \overline{)900} \\ 900 \\ \hline 0 \end{array}$$

The H.C.F of 1000 and 900 = 100

$$\begin{array}{r} 6 \\ 100 \overline{)650} \\ 600 \quad 2 \\ \hline 50 \overline{)100} \\ 100 \\ \hline 0 \end{array}$$

- ■ H.C.F of 650,900 and 1000 = 50



## EXERSICE – 8 [B]

6. Find the H.C.F of the following numbers by the division method.

e. 690, 966 and 1150

$$\begin{array}{r} 1 \\ 966 \overline{)1150} \\ 966 \quad 5 \\ \hline 184 \overline{)966} \\ 920 \quad 4 \\ \hline 46 \overline{)184} \\ 184 \\ \hline 0 \end{array}$$

The H.C.F of 1150 and 966 = 46

$$\begin{array}{r} 15 \\ 46 \overline{)690} \\ 46 \\ \hline 230 \\ 230 \\ \hline 0 \end{array}$$

■ ■ H.C.F of 690,966 and 1150 = 46



## EXERSICE – 8 [B]

6. Find the H.C.F of the following numbers by the division method.

f. 738 , 1080 and 1332

$$\begin{array}{r} 1 \\ 1080 \overline{)1332} \\ 1080 \quad 4 \\ \hline 252 \overline{)1080} \\ 1008 \quad 3 \\ \hline 72 \overline{)252} \\ 216 \quad 2 \\ \hline 36 \overline{)72} \\ 72 \quad 0 \\ \hline 0 \end{array}$$

The H.C.F of 1332 and 1080 = 36

$$\begin{array}{r} 2 \\ 36 \overline{)738} \\ 72 \\ \hline 18 \overline{)36} \\ 36 \\ \hline 0 \end{array}$$

■ ■ H.C.F of 738,1080 and 1332 = 18





## HOME ASSIGNMENT:

- Complete Exercise 8 [B] Q.No. 7 (g) and (h) in the notebook.



## LEARNING OBJECTIVE :

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**The students are able**

- **To understand the concept of factors and prime factors.**
- **to find out common factors and highest common factor using Division method.**

**THANKING YOU  
ODM EDUCATIONAL GROUP**

