Subject: MATHS   **28.06.2020**

Class 5

Lesson :6 B

H.C.F by short Division method:

H.C.F. by Short Division (Method-II)

1. Start dividing all the numbers by the least common factor. Here 2.
2. Write the quotients as shown.
3. Continue dividing till there is no common factor.
4. Multiply all the common prime factors to get the H.C.F.

Thus, H.C.F. of 18, 48 and 84 = 2 × 3 = 6.

$$\begin{array}{c|l} 2 & 18,\ 48,\ 84 \\ \hline 3 & 9,\ 24,\ 42 \\ \hline & 3,\ 8,\ 14 \end{array}$$

In this method you have to multiply the common prime factors to get the H.C.F.

Above example is incomplete so do it complete.

H.C.F by Division method:

This method is mainly used for greater greater numbers. We can divide from bigger to smaller.
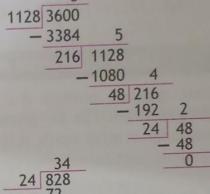
H.C.F. by Division Method (For Greater Number)

1. Find the H.C.F. of 828; 1,128 and 3,600.

Solution : Let us first find the H.C.F. of the greatest and second greatest number.

Step-1 Divide the greater number, 3,600 by the smaller number, 1,128. Get the remainder.

Step-2 Now, divide the divisor 1,128 by the remainder 216.

$$
\begin{array}{r}
3 \\
1128\,\overline{)3600} \\
-3384 \\
\hline
216\,\overline{)1128} \quad 5 \\
-1080 \quad 4 \\
\hline
48\,\overline{)216} \\
-192 \quad 2 \\
\hline
24\,\overline{)48} \\
-48 \\
\hline
0
\end{array}
$$

Step-3 Repeat the process of dividing the previous divisor by the last remainder till 0 is obtained as the remainder. The last divisor 24 is the required H.C.F.

$$
\begin{array}{r}
34 \\
24\,\overline{)828} \\
-72 \\
\hline
108 \\
-96 \quad 2 \\
\hline
12\,\overline{)24} \\
-24 \\
\hline
0
\end{array}
$$

Step-4 Thus, H.C.F. of 1,128 and 3,600 is 24.

Finally, let us find the H.C.F. of 24 and 828, using the same steps. It comes out to be 12.

Thus, H.C.F. of 828; 1,128 and 3,600 is 12.

Exercise: 6 B

1. **Find the HCF of the following numbers by Division method.**

- **96 and 120**

- **81 and 108**

- **144 and 312**

- **135** and **165**
- **198** and **360**
- **252** and **576**
- **60;96** and **150**
- **78; 130** and **182**
- **75;100** and **140**
- **72; 144,and 252**
- **405 ; 513** and **783**
- **300;324** and **372**

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