

Worksheet: - 3 Subject: - Mathematics

Class:-V

Teacher:-Mrs. Poonam Sunil

Name:-\_\_\_\_\_ Class &amp; Sec.:-\_\_\_\_\_

Roll No.:-\_\_\_\_\_

Date:-11/9/2020

**Revision Assignment-1****Good Morning Students! Today we will do****HCF:-****Highest Common Factor:-** The greatest number which is common factor of two or more given numbers is called their highest common factor(HCF) or Greatest common division (GCD)**Exercise -4(C)**Q3 Find the HCF using prime factorisation method.

a) 16 and 60

$$\begin{array}{r|l}
 2 & 16 \\
 \hline
 2 & 8 \\
 \hline
 2 & 4 \\
 \hline
 2 & 2 \\
 \hline
 & 1
 \end{array}
 \quad
 \begin{array}{r|l}
 2 & 60 \\
 \hline
 2 & 30 \\
 \hline
 3 & 15 \\
 \hline
 5 & 5 \\
 \hline
 & 1
 \end{array}$$

$$16 = 2 \times 2 \times 2 \times 2$$

$$60 = 2 \times 2 \times 3 \times 5$$

$$\text{HCF} = 2 \times 2 = 4 \text{ Ans}$$

c) 48 and 120

$$\begin{array}{r|l}
 2 & 48 \\
 \hline
 2 & 24 \\
 \hline
 2 & 12 \\
 \hline
 2 & 6 \\
 \hline
 3 & 3 \\
 \hline
 & 1
 \end{array}
 \quad
 \begin{array}{r|l}
 2 & 120 \\
 \hline
 2 & 60 \\
 \hline
 2 & 30 \\
 \hline
 3 & 15 \\
 \hline
 5 & 5 \\
 \hline
 & 1
 \end{array}$$

$$48 = 2 \times 2 \times 2 \times 2 \times 3$$

$$120 = 2 \times 2 \times 2 \times 3 \times 5$$

$$\text{HCF} = 2 \times 2 \times 2 \times 3 = 24 \text{ Ans}$$

b) 25 and 65

$$\begin{array}{r|l}
 5 & 25 \\
 \hline
 5 & 5 \\
 \hline
 & 1
 \end{array}
 \quad
 \begin{array}{r|l}
 5 & 65 \\
 \hline
 13 & 5 \\
 \hline
 & 1
 \end{array}$$

$$25 = 5 \times 5$$

$$65 = 5 \times 13$$

$$\text{HCF} = 5 \text{ Ans}$$

d) 150 and 225

$$\begin{array}{r|l}
 2 & 150 \\
 \hline
 3 & 75 \\
 \hline
 5 & 25 \\
 \hline
 5 & 5 \\
 \hline
 & 1
 \end{array}
 \quad
 \begin{array}{r|l}
 3 & 225 \\
 \hline
 3 & 75 \\
 \hline
 5 & 25 \\
 \hline
 5 & 5 \\
 \hline
 & 1
 \end{array}$$

$$150 = 2 \times 3 \times 5 \times 5$$

$$225 = 3 \times 3 \times 5 \times 5$$

$$\text{HCF} = 3 \times 5 \times 5 = 75 \text{ Ans}$$

e) 210 and 480

2   210	2   480
3   105	2   240
5   35	2   120
7   7	2   60
1	2   30
	3   15
	5   5
	1

$$210 = 2 \times 3 \times 5 \times 7$$

$$480 = 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 5$$

$$\text{HCF} = 2 \times 3 \times 5 = 30 \text{ Ans}$$

144, 180 and 192

2   144	2   180	2   192
2   72	2   90	2   96
2   36	3   45	2   48
2   18	3   15	2   24
3   9	5   5	2   12
3   3	1	2   6
1		3   3
		1

$$144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$$

$$180 = 2 \times 2 \times 3 \times 3 \times 5$$

$$192 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 3$$

$$\text{HCF} = 2 \times 2 \times 3 = 12$$

$$= 12 \text{ Ans}$$

f) 85 and 480

5   85	2   480
17   17	2   240
1	2   120
	2   60
	2   30
	3   15
	5   5
	1

$$85 = 5 \times 17$$

$$480 = 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 5$$

$$\text{HCF} = 5 \text{ Ans}$$