

C.W
23-8-23
1.) Find the HCF of the following:

A.) 8 and 16.

Ans.) Factors of 8 = 1, 2, 4, 8 So the HCF of 8 and 16 is 8.

Factors of 16 = 1, 2, 4, 8, 16

B.) 12 and 24

Ans.) Factors of 12 = 1, 2, 3, 4, 6, 12 So, the HCF of 12 and 24 is 12.

Factors of 24 = 1, 2, 3, 4, 6, 8, 12

c.) 24 and 36.

Ans.) Factors of 24 = 1, 2, 3, 4, 6, 8, 12, 24

factors of 36 = 1, 2, 3, 4, 6, 9, 12, 18, 36

So the HCF of 24 and 36 is 12.

D.) 5 and 10.

Ans.) Factors of 5 = 1, 5.

factors of 10 = 1, 2, 5, 10 So the HCF of 5 and 10 is 5

e.) 15 and 30.

factors of 15 = 1, 3, 5, 15. So the HCF of 15 and 30 is 15

factors of 30 = 1, 2, 3, 5, 6, 10, 15, 30.

f.) 4 and 6.

factors of 4 = 1, 2, 4

factors of 6 = 1, 2, 3, 6

G.) 54 and 72

Factors of 54 = 2, 4, 6, 8, 24, 32, 56.

Factors of 72 = 3, 7, 9, 12, 16, 36, 42 and 44

H.) 56 and 70

Factors of 56 = 2, 8, 12, 20, 24, 29, 36, 42 and 56.

Factors of 70 = 9, 18, 27, 36, 45, 54, 63, 70

I.) 23 and 25

Factors of 23 = 2, 5, 7, 9, 13, 21

Factors of 25 = 4, 6, 8, 12, 15, 17, 19, 25.

2.) Find the Hcf of the following by prime factorization

method:

A.) 8 and 42

$$\text{Ans.) } \begin{array}{l|l} 2 & 8 \\ \hline 2 & 4 \\ \hline 2 & 2 \end{array} \quad \begin{array}{l|l} 2 & 42 \\ \hline 2 & 21 \\ \hline 3 & 7 \end{array}$$

$$\text{Hcf} = 2 \times 2 = 4$$

B.) 124, 168 and 210.

$$\begin{array}{l|l} 2 & 124 \\ \hline 2 & 62 \\ \hline 31 & 2 \end{array} \quad \begin{array}{l|l} 2 & 168 \\ \hline 2 & 84 \\ \hline 2 & 42 \\ \hline 3 & 14 \\ \hline 7 & 2 \end{array} \quad \begin{array}{l|l} 2 & 210 \\ \hline 3 & 70 \\ \hline 5 & 14 \\ \hline 7 & 2 \end{array}$$

$$124 = 2 \times 2 \times 31$$

$$168 = 2 \times 2 \times 2 \times 3 \times 7$$

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

$$\text{Hcf is} = 2$$

f.) 40, 50 and 64

c.) 96, 112 and 108

$2 \mid 96$	$2 \mid 112$	$2 \mid 108$
$2 \mid 48$	$2 \mid 56$	$2 \mid 54$
$2 \mid 24$	$2 \mid 28$	$3 \mid 27$
$2 \mid 12$	$2 \mid 14$	$3 \mid 9$
$2 \mid 6$	7	3
3		

$2 \mid 40$	$3 \mid 44$
$2 \mid 20$	$3 \mid 22$
$2 \mid 10$	$2 \mid 11$
5	11
1	2

HCF is $= 2 \times 2 = 4$

g.) 12, 56 and 98

d.) 73, 98

$7 \mid 73$	$2 \mid 98$
1	$7 \mid 49$
	$7 \mid 7$
	1

$7 = 7 \times 1$

h.) 16, 48

$2 \mid 12$	$2 \mid 33$	$4 \mid 7$
1	3	$4 \mid 3$
	2	$2 \mid 1$
		1

e.) 108 and 144

$2 \mid 108$	$2 \mid 144$
$2 \mid 54$	$2 \mid 72$
$2 \mid 27$	$2 \mid 36$
$3 \mid 27$	$2 \mid 18$
$3 \mid 9$	$2 \mid 9$
$3 \mid 3$	3
3	

i.) 15, 20

$2 \mid 10$	$3 \mid 16$
$2 \mid 5$	$2 \mid 8$
5	2
	3

j.) 112, 240, 260

$2 \mid 112$	$4 \mid 100$	$5 \mid 260$
$2 \mid 56$	$4 \mid 25$	$5 \mid 52$
$2 \mid 28$	5	$2 \mid 10$
$2 \mid 14$		$2 \mid 5$
$2 \mid 7$		5
7		