Subject : MATHS **25.06.2020**

Class 5

Lesson : 6 Highest Common Factor (HCF)

Highest Common Factor (HCF)or Greatest Common Factor (GCF) of two or more given numbers is the greatest number which devides all the given numbers without leaving any remainder. It is the greatest number that is a factor of all the given numbers. One example is done for you:-

Find the HCF of 32 and 36

Solution:-

Factor of 32= 1,2,4,8,16 and 32

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

The common factors of 32 and 36 are 1,2 and 4

The highest of these factors is 4.

So HCF of 32 and 36 is =4

Properties of HCF

- **The HCF of two or more given numbers can never be greater than the number .**

Ex:- HCF of 3 and 5 is 1

So 1 is lesser than 3 and 5

- **The HCF of two prime number is always 1.**

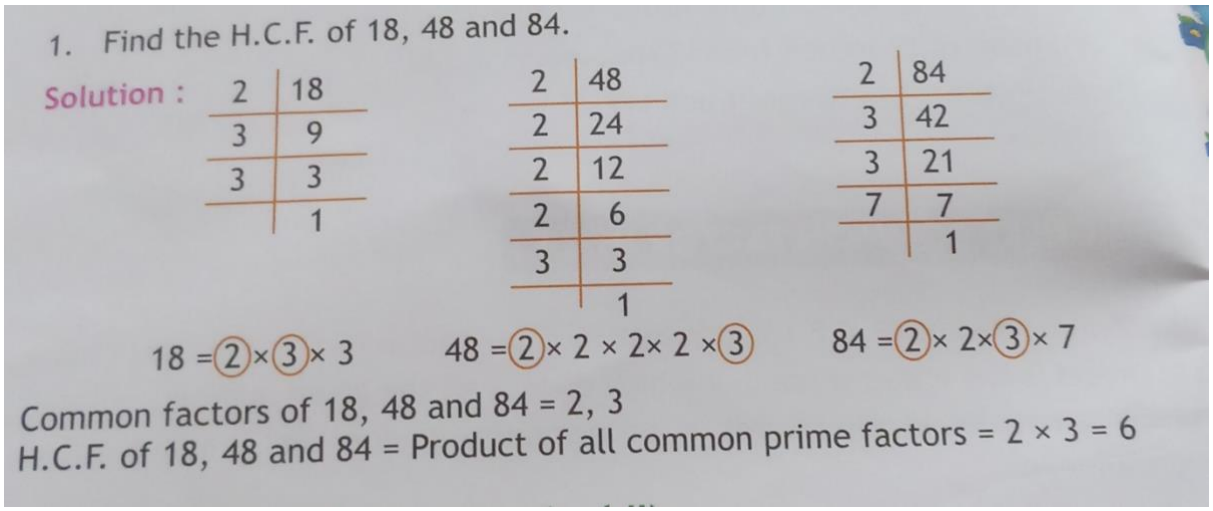
  Ex:- HCF of 3 and 7 is 1.

  HCF of 11 and 17 is 1.

- **If one number is a factor of another number,then their HCF is smaller number itself. Ex- HCF of 3 and 6 is 3**

  HCF of 7 and 21 is 7.

HCF by prime Factorisation method



1. Find the H.C.F. of 18, 48 and 84.

Solution :

2	18
3	9
3	3
	1

2	48
2	24
2	12
2	6
3	3
	1

2	84
3	42
3	21
7	7
	1

$18 = (2) \times (3) \times 3$

$48 = (2) \times 2 \times 2 \times 2 \times (3)$

$84 = (2) \times 2 \times (3) \times 7$

Common factors of 18, 48 and 84 = 2, 3

H.C.F. of 18, 48 and 84 = Product of all common prime factors = $2 \times 3 = 6$

Home assignments:-

Find the Common factors of the following numbers and find their HCF.

- **32 and45**
- **32 and 56**
- **28 and 84**
- **15,60 and 90**
- **12,18 and24**
- **21,42 and 84**

Q. To understand the facts of HCF and solve the questions.

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