



TOPIC- MULTIPLES AND FACTORS

NAME - _____ CLASS IV/ SEC ____ DATE -14 /12/2020 -18/12/2020

Learning outcomes :


Each child will be able to:



- Apply the concept of factors to find the common factors of the given numbers.
- Develop the skill to find the common factors and the HCF of the given numbers.

COMMON FACTORS and HCF (HIGHEST COMMON FACTOR)

Common Factors

Rohan bought 32 boxes of sweets and Sumedha bought 36 boxes of sweets. They have to keep their boxes in equal piles. What are the piles of equal number of boxes that each one of them can make?



 Rohan	 Sumedha
1 row of 32 boxes (1×32)	1 of 36 boxes (1×36)
2 rows of 16 boxes (2×16)	2 rows of 18 boxes (2×18)
4 rows of 8 boxes (4×8)	3 rows of 12 boxes (3×12)
	4 rows of 9 boxes (4×9)
	6 rows of 6 boxes (6×6)

So, Factors of 32 = 1, 2, 4, 8, 16, 32
Factors of 36 = 1, 2, 3, 4, 6, 9, 12, 18, 36
Common factors of 32 and 36 = 1, 2 and 4
Thus, Highest common factor (HCF) of 32 and 36 is _____
So Rohan and Sumedha should make piles of 4 boxes each.

So, we have observed that HCF(Highest Common Factor) of some given numbers is the largest number that divides each one of them exactly.

Hence, HCF of 32 and 36 is 4.

(4 is the largest number that divides both 32 and 36 exactly.)

Let's observe one more way of finding and representing common factors:

Example 1
Find the common factors of 9 and 12.

Factors of 9

1×9
 3×3

Factors of 12

1×12
 2×6
 3×4

Common Factors

Factors of 9 = 1, 3, 9
Factors of 12 = 1, 2, 3, 4, 6, 12
So, common factors of 9 and 12 are 1 and 3.
Thus, HCF of 9 and 12 is _____.

LET'S TRY:

Q1. Find all the common factors of the following numbers:

- a. 3 and 6
- b. 4 and 6
- c. 2 and 12
- d. 6 and 9

Q2. Find all the factors of the given numbers and write their common factors in the part shaded orange.

a 6, 8
Factors of 6 _____
Factors of 8 _____
Common Factors of 6 and 8 _____

b 12, 16
Factors of 12 _____
Factors of 16 _____
Common Factors of 12 and 16 _____

c 5, 10
Factors of 5 _____
Factors of 10 _____
Common Factors of 5 and 10 _____

d 24, 72
Factors of 24 _____
Factors of 72 _____
Common Factors of 24 and 72 _____

The worksheet includes four Venn diagrams, each consisting of two overlapping circles. The intersection of the circles is shaded orange and labeled "Common Factors".

Q3. Find the HCF of the following numbers:

- a. 8 and 12
- b. 10 and 15
- c. 12 and 16
- d. 16 and 23

USE THE FOLLOWING LINKS FOR THE BETTER UNDERSTANDING OF THE CONCEPT:

<https://youtu.be/4ZeVwLytKcg>

<https://youtu.be/LUkBNQuiUM>

Time To Put Your THINKING CAPS On !!

Guess the number!
I am a two digit number.
I am lost somewhere in the box. Locate me!

9	27	35	43
15	1	47	50
12	21	2	27
13	14	25	6
42	38	18	3

Challenge FOR YOU

Use the clues given to find me.

- ☺ Clue 1: I am an Odd number.
- ☺ Clue 2: I am greater than 18.
- ☺ Clue 3: I am not a multiple of 5.
- ☺ Clue 4: I am a factor of 147.

