Finding Highest Common Factor (HCF)

HCF by listing factors method

Example: Highest common factor of 32 and 24

Solution: Factors of 32 = 1, 2, 4, 8, 16, 32

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

Here, the largest number that is common in the list of factors is 8.

Therefore, HCF (32, 24) = 8.

HCF by prime factorization method

To get HCF we multiply common prime numbers with their least power.

Example: Highest common factor of 36 and 84.

Solution: Prime factorization of $36 = 2 \times 2 \times 3 \times 3 = 2^2 \times 3^2$

Prime factorization of $84 = 2 \times 2 \times 3 \times 7 = 2^2 \times 3 \times 7$

Thus, the highest common factor of 36 and $84 = 2^2 \times 3 = 4 \times 3 = 12$

HCF (36, 84) = 12

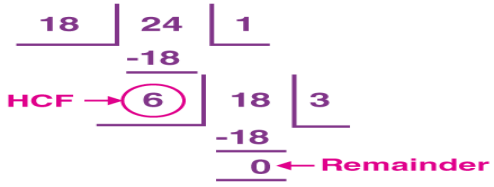
HCF by division method

Example: Highest common factor of 18 and 24.

Solution: 24 > 18

So, dividend = 24 and divisor = 18

Let's perform the division as explained in the below steps.



Therefore, the highest common factor of 18 and 24 is 6.