**Co-prime Numbers** 

# **Understanding Co-prime Numbers**

- Co-prime numbers are two numbers that have no common factor other than 1.
- They are also called relatively prime numbers.
- Co-prime numbers do not need to be prime.
- They may be odd, even, or one of each.
- The HCF (Highest Common Factor) of two co-prime numbers is always 1.

## **Facts about Co-prime Numbers**

- Example: 4 and 9 are co-prime (common factor is only 1)
- 2 and 3 are co-prime (both are prime)
- 8 and 9 are co-prime (both are composite but still co-prime)
- All pairs of consecutive numbers are co-prime (like 5 and 6)
- Co-prime numbers help in simplifying fractions

## **Examples with Solutions**

Example: Are 7 and 10 co-prime? Factors of 7 = 1, 7Factors of 10 = 1, 2, 5, 10Common factor = 1 Yes, 7 and 10 are co-prime Example: Are 8 and 9 co-prime? Factors of 8 = 1, 2, 4, 8Factors of 9 = 1, 3, 9Common factor = 1 Yes, 8 and 9 are co-prime

## Example: Are 6 and 9 co-prime?

Factors of 6 = 1, 2, 3, 6

Factors of 9 = 1, 3, 9

Common factors = 1, 3

No, 6 and 9 are not co-prime

#### **Example:** Are 11 and 13 co-prime?

- Factors of 11 = 1, 11
- Factors of 13 = 1, 13
- Common factor = 1
- Yes, 11 and 13 are co-prime

#### Example: Are 14 and 21 co-prime?

Factors of 14 = 1, 2, 7, 14

Factors of 21 = 1, 3, 7, 21

Common factors = 1, 7

No, 14 and 21 are not co-prime

## **Summary Points**

- Co-prime numbers have only one common factor: 1.
- They can be both prime or composite.
- Consecutive numbers are always co-prime.
- HCF of co-prime numbers is always 1.
- Co-prime numbers are helpful in simplifying fractions and solving number problems.