# **Prime and Composite Numbers**

### **Understanding Prime and Composite Numbers**

- A prime number has exactly two factors 1 and the number itself.
- A composite number has more than two factors.
- 1 is neither prime nor composite.
- Prime numbers cannot be divided evenly by any number other than 1 and itself.
- Composite numbers can be divided evenly by numbers other than 1 and itself.

#### **Facts about Prime and Composite Numbers**

- 2 is the smallest and only even prime number
- All even numbers greater than 2 are composite
- Prime numbers help in factorization and building other numbers
- Composite numbers are made by multiplying smaller numbers

#### **Examples with Solutions**

Example: Is 5 a prime number?

Factors of 5 = 1, 5

Yes, 5 has only two factors  $\rightarrow$  Prime number

Example: Is 6 a composite number?

Factors of 6 = 1, 2, 3, 6

Yes, 6 has more than two factors  $\rightarrow$  Composite number

Example: Is 1 a prime or composite number?

1 has only one factor  $\rightarrow$  Neither prime nor composite

Example: Is 13 a prime number?

Factors of 13 = 1, 13

Yes, 13 has exactly two factors  $\rightarrow$  Prime number

Example: Is 9 a composite number?

Factors of 9 = 1, 3, 9

Yes, 9 has more than two factors  $\rightarrow$  Composite number

## **Summary Points**

- Prime numbers have only two factors: 1 and itself.
- Composite numbers have more than two factors.
- 1 is neither prime nor composite.
- 2 is the only even prime number.

• Understanding prime and composite numbers helps in factorization and number patterns.