

Prime Numbers:

A prime number is a whole number that has only two factors: 1 and the number itself.

Examples: 2, 3, 5, 7, 11

Composite Numbers:

Composite numbers are whole numbers that have more than two factors.

Example: 4, 6, 8, 9, 10

Note:

1. 2 is the only even prime number. All other prime numbers are odd.
2. 1 is neither prime nor composite. It has only one factor — 1 itself.

Prime Factorization:

Prime factorization is the process of breaking down a composite number into a set of prime numbers that, when multiplied together, equal the original number.

For example, the prime factorization of 12 is $2 \times 2 \times 3$. Every whole number greater than 1 has a unique set of prime factors.