# Chinese Remainder Theorem

Chinese Remainder Theorem is called 孙子定理、中国剩余定理 in China.

## Theorem statement

Let be integers greater than 1, which we call **moduli(余子)** or **divisors(除数)** in this context.

Let

The CRT theorem asserts that if are **pairwise coprime**, and if are non-negative integers less than corresponding , then the solution of the following **congruence modulo system（同余方程组）**exists:

Assume

Also let

The general form of is

where is any nonnegative integer.

We can also write