

Trezor

[English](#)

[Vietnamese](#)

Mirko decided to open a new business – bank vaults. A branch of the bank can be visualized in a plane, vaults being points in the plane. Mirko's branch contains exactly $L \cdot (A+1+B)$ vaults, so that each point with integer coordinates inside the rectangle with corners $(1, -A)$ and (L, B) contains one vault.

The vaults are watched by two guards – one at $(0, -A)$, the other at $(0, B)$. A guard can see a vault if there are no other vaults on the line segment connecting them.

A vault is not secure if neither guard can see it, secure if only one guard can see it and super-secure if both guards can see it.

Given A , B and L , output the number of insecure, secure and super-secure vaults.

Input

The first line contains integers A and B separated by a space ($1 \leq A \leq 2000$, $1 \leq B \leq 2000$).

The second line contains the integer L ($1 \leq L \leq 1\,000\,000\,000$).

Output

Output on three separate lines the numbers of insecure, secure and super-secure vaults.

Example

Input:

1 1
3

Output:

2
2
5

Input:

2 3
4

Output:

0
16
8

Input:

7 11
1000000

Output:

6723409
2301730

