COCI '08 Contest 4 #5 Trezor

Time limit: 1.4s   **Memory limit:** 32M

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 Specification

The first line contains integers A and B separated by a space ($1 \le A, B \le 2000$). The second line contains the integer L ($1 \le L \le 1\,000\,000\,000$).

Output Specification

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

Scoring

In test cases worth 50% of points, L will be at most 1000.

In test cases worth another 25% of points, A and B will be at most 100 (but L can be as large as one billion).

Sample Input 1

```
1  1
3
```

Sample Output 1

```
2
2
5
```

Sample Input 2

```
2 3
4
```

Sample Output 2

```
0
16
8
```

Sample Input 3

```
7 11
1000000
```

Sample Output 3

```
6723409
2301730
9974861
```