Problem EENIEMEENIE: Eenie Meenie Miny Moe

Little Johnny and his friends play a lot of games in which each player gets a different role. The roles are assigned using a method reminiscent of "eenie meenie miny moe" rhymes. n kids stand in a circle and are numbered from 1 to n going in a clockwise direction. They choose a number m, and starting with kid 1, they go around the circle in a clockwise direction, counting off from 1 to m. The kid who gets number m is eliminated from the circle, and the counting starts again at 1 with the next kid. The ith eliminated kid gets the ith role in the game. Johnny wants to know what role he will get if he is kid number k in the circle.

For example, consider the case where $n = 5$, $m = 2$, and $k = 3$. The kids are arranged clockwise as follows: $1, 2, 3, 4, 5$. Starting with kid 1, they start counting from 1 to 2. Kid 2 gets number 2, so he is eliminated from the circle, which now looks like: 1, 3, 4, 5. They start counting again with kid 3. Kid 4 gets number 2 this time, so he is the next to get eliminated. Then, kid 1 is eliminated, followed by kid 5, and finally, kid 3. Johnny is kid 3, so he is the 5th kid to get eliminated, and he is assigned the 5th role.

Given n, m, and k, return the role assigned to Johnny. Roles are 1-indexed, so the 1st eliminated kid gets role 1, the 2nd eliminated kid gets role 2, and so on.

Input

The first line gives the number of testcases. Each testcase consists of three numbers n, m, k on one line ($1 \le n, m \le 500000$; $1 \le k \le n$).

Output

For each testcase, print one line containing Johnny's role.

Sample Input 1

```
5
5 2 3
1 10 1
99 100 99
19999 7 5
99999 11111 3
```

Sample Output 1

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5
1
94
18019
69557
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