FOC has decided to give Varchas goodies to the contingents that have come.
They have decided to pack goodies for each member in cube boxes. FOC has **m** cubes with edge length **a** (for top performers :D) and **n** cube shaped boxes with edge length 1 (for rest of the members).

They want to pack these boxes into a big cuboid box **B**. Also each cube shaped box should be packed each of its edges is parallel to an edge of the box B.

FOC wants to know the **minimum** possible volume of the box B which can store their boxes.

Note:

- The answer will fit in 32-bit signed integer.

Input:

The first line of the input contains an integer **T** denoting the number of test cases. Then, T lines follow.

Every line contains three space separated integers **n**, **m** and **a**.

Output:

For each test case, output a single integer containing the answer to the corresponding test case.

Constraints

- **1 <= T <= 10**
- **1 <= n <= 10^9**
- **1 <= m <= 10^6**
- **2 <= a <= 10**

Example:

Sample Input:

2

2 2 2

19 1 2

Sample Output:

20

27

Explaination:

- Case #1: The required dimension is 2x2x5
- Case #2: The required dimension is 3x3x3

Sample Input (Plaintext Link)

```
2
2 2 2
19 1 2
```

Sample Output (Plaintext Link)

```
20
27
```

Time Limit: 3 sec(s) for each input file.

Memory Limit: 256 MB

Source Limit: 1024 KB

Scoring: Score is assigned when all testcases pass.