Box in Box 2

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

While Ket the cat is running away from the Tien Kai clones, he wants to make another terrible problem for Tien Kai to solve. However, since he is trying to escape the clones, he only has the time to write a very short statement:

You have a box, A, of size $x \times y \times z$. You can then create a magical box, B, with a volume V, with any dimensions of your choice. This box is able to float in air. What is the **maximum number** of distinct locations that you can place B in A such that the following conditions are fulfilled:

- All corresponding sides of A and B are parallel.
- The perpendicular distances between the edges of A and B are integers.

Input

The first and only line consists of 4 integers, x, y, z and V.

Output

Output one integer, the **maximum number** of distinct locations you can place B in A where the conditions above are fulfilled. If there is no way to select dimensions of B so it fits A, output 0.

Scoring

For all testcases, it is guaranteed that:

- $1 \leq x,\ y,\ z \leq 2\,000$
- $1 \leq V \leq x \times y \times z$

Subtask	Constraints	Points
1	$V = x \times y \times z$	5
2	$x,\ y,\ z \leq 2$	15
3	$V = 1$	35
4	—	45
5	Sample Testcases	0

Examples

standard input	standard output
3 3 3 8	8
3 3 3 18	2
1800 1800 1800 4913000000	1030301

Note

Box B is magical and can be placed anywhere in A, even in the air, without falling to the ground!

For the first testcase, it is optimal to choose B with side lengths 2, 2 and 2, which has a volume of 8. It can be shown that there are 8 ways to place B inside A.

For the second testcase, B with side lengths 2, 3 and 3 are optimal.