Problem M

Chocolate Bar

You have a bar of chocolate which can be represented as a rectangle. Originally, the chocolate bar has a width of N and a height of M. For this problem, denote $(n \times m)$ as a chocolate bar with a width of n and a height of m.

You want to eat the chocolate with a total area of exactly K. However, you always eat a chocolate bar as a whole; that is, if you eat a chocolate bar $(n \times m)$, then you will eat all the chocolate with area $n \cdot m$.

To be able to eat exactly K total area, you are allowed to perform any of the following operations any number of times (possibly zero).

- Pick one bar of chocolate $(n \times m)$ then split it into two bars: $(n \times i)$ and $(n \times (m - i))$ such that i is an integer that satisfies $1 \leq i < m$.
- Pick one bar of chocolate $(n \times m)$ then split it into two bars: $(i \times m)$ and $((n - i) \times m)$ such that i is an integer that satisfies $1 \leq i < n$.

Determine the minimum number of operations such that it is possible to eat some chocolate bars with a total area of K.

Input

Input consists of three integers N M K ($1 \leq N, M \leq 10^6; 1 \leq K \leq N \cdot M$).

Output

Output a single integer representing the minimum number of operations such that it is possible to eat some chocolate bars with a total area of K.

Sample Input #1

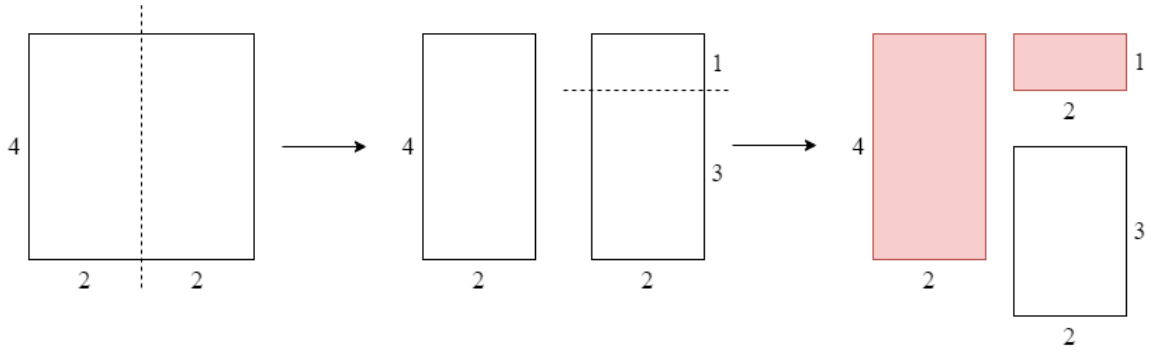
```
4 4 10
```

Sample Output #1

```
2
```

Explanation for the sample input/output #1

The following illustration shows one of the solutions to this sample. The chocolate bars that you eat are colored red.



Sample Input #2

```
5 6 6
```

Sample Output #2

```
1
```

Sample Input #3

```
1 1 1
```

Sample Output #3

```
0
```