Problem APFELSCHORLE: Apfelschorle

Competetive programmer Mike is flying to a prestigious programming contest. He's thirsty and wants an Apfelschorle (also known as "apple juice spritzer"; it consists of apple juice mixed with carbonated mineral water).
He is not sure whether the flight attendant knows the word "Apfelschorle". So he orders an "apple juice with water" instead.
The flight attendant hands him two plastic cups, one with pure apple juice, one with carbonated water. Before Mike can clarify, the flight attendant is already serving the next row.
Mike really loves Apfelschorle, so he needs to fix this. To avoid spilling, flight attendants never fill a cup completely, so Mike is able to pour some liquid from one cup into the other, back again and so on.

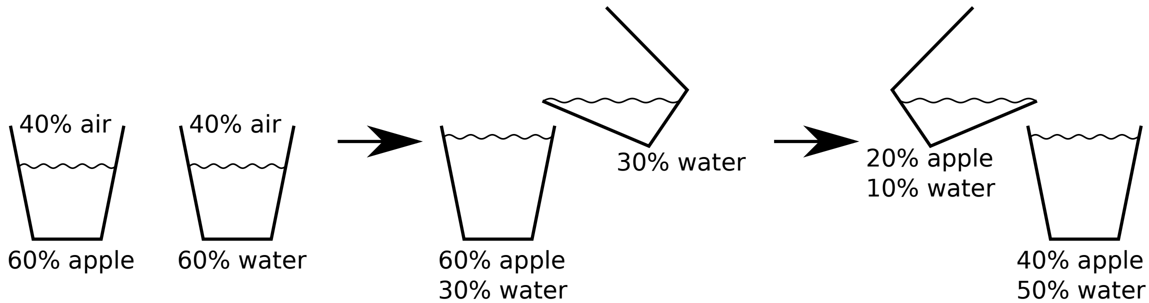

Figure 1: Example: Mike gets two cups, pours twice.

Continuing infinitely, he would end up with the same ratio of components in both cups. But Mike does not want to spend an infinite amount of time. However, he still wants to achieve reasonably similar ratios in both cups.
Mike defines the ratio R_X of cup X as $\frac{\text{amount of apple juice in cup } X}{\text{total amount of liquid in cup } X}$. He thinks reasonably similar ratios are achieved when $|R_1 - R_2| \leq \frac{D}{10^6}$, where D is the precision Mike wants to achieve and depends on his mood.
Can you help him to determine the minimum number of times he has to pour liquid from one cup into the other to reach "reasonably similar ratios"?
You may assume the following: Both cups are of same size. Liquids mix instantly. Mike does not spill liquid on accident or purpose. If a cup X is empty after pouring, R_X equals R_Y. Mike does not drink from any cup before "reasonably similar ratios" are achieved.

Input

There is only one line of input. It contains three integers A, W and D ($1 \leq A, W \leq 99$; $10^3 \leq D < 10^6$). The first cup is filled to A percent with apple juice. The second cup is filled to W percent with carbonated water. D refers to the constant in Mikes formula for "reasonably similar ratios".
It is guaranteed that adding or subtracting 1 to D does not change the result.

Output

Print a single line containing one integer, the minimum number of times Mike has to pour liquid from one cup into another, so that the formula for "reasonably similar ratios" is true.

Sample Input 1	Sample Output 1
`60 60 300000`	`2`

Sample Input 2	Sample Output 2
`50 80 200000`	`2`