7655 Every Runner is Sometimes Lonely

Soon after 2016 Rio Olympics, marathon coach of ACM team started training his team members for 2020 Tokyo Olympics. An important part of the training program is to let them running at their comfortable speeds around the athletic track. After a few days, the coach observed that every runner is sometimes lonely, meaning that he or she is separated by a "large" distance from all other runners.

The coach's observation may be true. In order to do further study, the coach's observation can be rephrased as follows:

> Suppose there are $n > 1$ runners running on the circular track of circumference c meters. They all started at the same origin and running at different speeds. Then for each runner r, there is at least one time t_r for which that runner is *lonely*, in the sense that he or she is separated by a distance at least c/n meters from every other runner.

In this problem, we are going to verify a simple version of the above observation. Assume that there are two runners A and B. They started running from the same position, called *origin*, on the circular track of length c, at constant speeds v_1 and v_2, respectively. Furthermore, assume that v_1 and v_2 are integers, and $v_1 \neq v_2$. Note that the speeds v_1 and v_2 can be zero or negative. If the speed is positive, then the runner runs counter-clockwise around the track, otherwise he or she runs clockwise.

Write a program to calculate the position d from the origin for runner A such that the two runners are at $c/2$ meters apart. The position d is measured counter-clockwise along the circular track from the origin, and $0 \leq d < c$. Furthermore, A and B may be at $c/2$ meters apart many times. The output of your program should be the first time this condition occurs.

Input

The test data may contain many test cases. Each test case contains three integers c, v_1, and v_2 in a line. The value of c and the absolute values of v_1 and v_2 are all less than 2^{31}. The last test case is followed by a line containing a single '`0`'.

Output

The output for each test case is the distance d of the position of A from the origin when the first time A and B are separated $c/2$ meters apart. If the value of d is not an integer, then it must be rational. In this case, print it in 'q/p' format, where p and q are integers, and $\gcd(p, q) = 1$. If the condition never occurs, then print '`false`'.

Sample Input

```
400 1 2
350 2 5
400 3 -7
0
```

Sample Output

```
200
350/3
60
```