Mock CCO '19 Contest 2 Problem 4 - A Geometry Problem

Time limit: 0.5s **Memory limit:** 162M

The *beauty* of a rectangle is the ratio between the length of the longer side and the length of the shorter side.

Given a rectangle with side lengths X and Y, repeat the following process until you have N rectangles:

```
Select one rectangle
Cut it into two rectangles
```

After doing this, all rectangles must have the same area.

The beauty of a set of rectangles is the maximum beauty present among all rectangles in the set. Compute the minimum possible beauty of the set assuming optimal cuts.

Constraints

$1 \leq N \leq 10$

$1 \leq X, Y \leq 10^4$

Input Specification

The first and only line contains three space-separated integers, X, Y, and N.

Output Specification

Output the desired beauty to exactly six decimal places.

Sample Input

```
5 5 5
```

Sample Output

```
1.800000
```