Stupid people **P45462_en**

Divuitè Concurs de Programació de la UPC - Final (2020-10-07)

The current pandemic has proven (once again) how many stupid people there are. Consider, for instance, the use of face masks, under this simplified model: The length of a face is ℓ, with the bottom of the chin at position 0 and the top of the front at position ℓ. The bottom of the mouth is at position m, and the top of the nostrils is at position n, with $0 < m < n < \ell$.

Let us consider that a placement of a mask is defined by two real numbers: its bottom position $b \geq 0$ and its upper position $u \leq \ell$, where $b < u$. We say that a placement is reasonable if it completely covers the mouth and the nostrils, that is, if $b \leq m$ and $u \geq n$.

A stupid person just choses any possible placement such that $0 \leq b < u \leq \ell$ uniformly at random. Note that b and u are real numbers with an arbitrary (or infinite) number of decimals. What is the probability that a stupid person wears a mask in a reasonable way?

Input

Input consists of several cases, each with three real numbers m, n and ℓ. You can assume $0 < m < n < \ell \leq 10^6$.

Output

For every case, print the probability that a stupid person wears a mask in a reasonable way. Print four digits after the decimal point. The input cases do not have precision issues.

Sample input

```
10 15 20
1.62 2.72 3.14
1 2 3
```

Sample output

```
0.2500
0.1380
0.2222
```

Problem information

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