# Problem B: Smeech

Professor Octastichs has invented a new programming language, Smeech. An expression in Smeech may be a positive or negative integer, or may be of the form $(p\ e_1\ e_2)$ where $p$ is a real number between 0 and 1 (inclusive) and $e_1$ and $e_2$ are Smeech expressions. The value represented by a Smeech expression is as follows:

- An integer represents itself
- With probability $p$, $(p\ e_1\ e_2)$ represents $x+y$ where $x$ is the value of $e_1$ and $y$ is the value of $e_2$; otherwise it represents $x-y$.

Given a Smeech expression, what is its expected value?

Input consists of several Smeech expressions, one per line, followed by a line containing (). For each expression, output its expected value to two decimal places.

## Sample Input

```
7
(.5 3 9)
()
```

## Output for Sample Input

```
7.00
3.00
```

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*Gordon V. Cormack*