True Pricing

Computer Science Society
Programming Contest
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Too often, vendors (of phone service, new and leased cars, airline travel, credit cards, ...) advertise low prices and conceal additional taxes, fees, and costs that confuse/surprise consumers and obscure true prices. Consumers would much rather know the true price. I am not against taxes and fees; I just think they should be included from the outset.

A *true price* is the sum of a *base price* and *taxes*. A tax is defined as a percentage—the *tax rate*—of the base price. For example, a sales tax rate of 8.75% is applied on most purchases in my county. In this problem, we input a desired true price and any tax rates, and compute the base price that yields the desired true price.

Input Format

Each input line contains a natural number $t \geqslant 0$—a true price—and $k \geqslant 0$ positive real numbers $0 < r_1, r_2, \ldots, r_k \leqslant 100$—the tax rates.

Output Format

For each input line, compute and output the base price b such that

$$t = b + \sum_{i=1}^{k} \frac{r_i}{100} \cdot b.$$

Output b, accurate to two decimal digits, as shown in the output sample.

Input Sample

```
100 20.0 8.75 2.3
65
40 9.25 1.0 0.5
```

Output Sample

```
76.31
65.00
36.12
```