# Matches

Upon a table there are two boxes. Each box has N matches inside. We want to know what is the probability of choose N times a random box and take one match from it, at the end have an empty box.

You have to print all digits.

Constrains
1 <= T <= 1000
1 <= N <= 1000

## Input

T
N1
N2
...
NT

## Output

P1
P2
...
PT

## Example

**Input:**
1
2

**Output:**
0.5